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The Titantic Catastrophe

TWO thousand years ago the theologians of the day were puzzling themselves to reconcile the conception of an all-wise, all-good, all-powerful Creator with the presence of evil in the world. This is how they did it: They assumed that the Creator was all that was claimed, and that he had existed eternally. But, besides, matter had also existed from all eternity, and matter was inert, lifeless, and essentially evil. From the Eternal Divine came an emanation, like a beam from the sun; this ray fell on a surface, whence it was reflected as a ray of light falling on a mirror; this reflection was again reflected, and so on, until the seventh reflection fell on the surface of the abyss, as light might fall on the surface of water in a well. This image, formed on the surface of matter, yet with an emanation of light from the Divine, partook of both elements, and it became the creator of the world we know. The latter, therefore, consists essentially of the evil matter, with a spark of divinity in it.

Since the first man bestrode a floating tree and voyaged thereon to a desired destination, the arts and sciences have progressed. Workers in wood and iron and in all the materials of which man has rendered himself master combined to produce, the last word of the shipwright, the sea-giant Titanic. Sixty-six thousand tons she weighed, and this monstrous mass was welded cunningly together to create the hugest, and strongest, and safest, and swiftest, and most gorgeous, and most costly carrier as yet framed by human hands. Freighted by thousands of human beings, bearing a totality of wealth that dims the wildest dreams of Araby, the richest fabrics the looms of the world had woven, the most brilliant gems of Golconda; gay with music and laughter, her ports alight, her luxury unparalleled, she swiftly bored her way westward.

Away up in the frozen North the land and sea are weighted down with their burden of ice. The slow, ceaseless movement of the glacier brings the ice to the sea, which it overhangs; until great masses break away and float down to the south on the icy currents from the Pole.

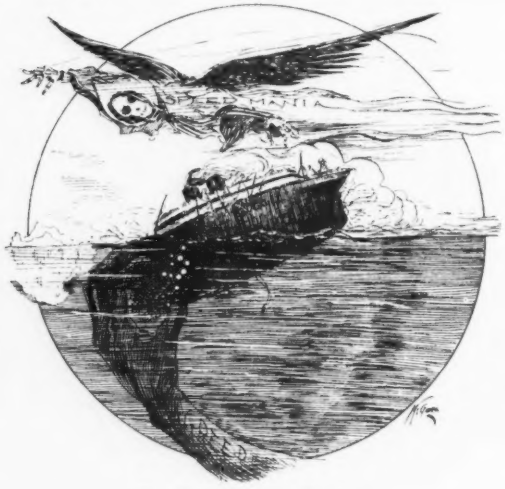
Westward the Titanic plows her way, brilliant, shining, resistless, instinct with life, representing and embodying the latest, greatest, strongest in human achievement.

Her saloons are thronged with men whose nod makes the world of finance tremble. Statesmen, divines, journalists, authors, artists, soldiers, scientists gather around the queens of the salon, whose jewels

exceed in value the traditional ransom of a monarch.

Down from the north floats the berg—vast, unwieldy, at the mercy of wind and current, lifeless, motiveless, buffeted by the waves and melted by the sun, this personification of the Gnostic's idea of matter, inert, dead, essentially evil, aimlessly, ponderously, sluggishly drifts across the course of the Titanic.

Ribbed and plated and braced with steel, this hugest of man's motile creations,



THE LOSS OF THE TITANIC
Drawn especially for
CLINICAL MEDICINE

driven by the power of steam and glowing with electric light, hurtling through the waves with the force of fifty thousand horses, grazes the side of the crystalline berg. Crumpled into a chaos of broken machinery, the giant ship plunges down to her last resting place, her dock two miles down at the bottom of the Atlantic, carrying with her that precious freightage of mortal beings, that gathering of the rare, the beautiful, the costly for which the world had been ransacked, for which the hands of workers in every land had labored.

The berg drifted on sluggishly—inert, lifeless, essentially evil.

Triumphant over the wreck of matter, over the crash of this marvel of human skill, arose the indomitable will of man, refusing to bend before Death himself, but responding, in the presence of the destroyer, to the demands of duty and the cry of weakness. Duty! "Stern daughter of the voice of God!" At her call all came, Christian and Jew, Saxon and Celt, and Slav and Teuton; from the cold North, from the sunny South, all responded alike. "The women and children first." The men of every race and creed stood by to die while the women and little ones were being rescued.

Who says this is a time of degeneracy; that the race grows corrupt? Was there ever a day or a land where such things could be, until this age and day?

THE RATIONAL TREATMENT OF GALLSTONES

If there is one characteristic of the medical profession that stands out more prominently than any other, what is it?

"The lack of business sense" is the prompt response from every man who has business relations with a doctor.

"Self-forgetfulness," says the appreciative MacLaren.

"The divine gift of healing," says the occasional grateful patient.

Leaving aside these and many more partial conceptions based upon single examples, we asseverate that our leading characteristic is agreeableness—the innate tendency to agree unquestioningly with every proposition, however innately ridiculous or contradictory to our whole knowledge and experience that may be made to us.

For instance. Somebody who could not tell the diaphragm from the arachnoid from the depths of his profound ignorance announces that all human ills can be best treated by applications of water. We agree! Others similarly endowed advance the claims of electricity, of massage, vibrations, chromatotherapy, metallotherapy, suggestion and superstition and imposture in multitudinous forms—and we agree. All these people, who don't know the difference, therapeutically or otherwise, be-

tween castor oil and castor, unite in a loud shout that all drugs are useless, harmful, and positively immoral—and we agree!

The reason is, that we don't know very much, ourselves, about drugs, and unfortunately many of us mistake our individual ignorance for the nonexistence of truth.

In accordance with this agreeing tendency, when the surgeon asserts that there is no medical treatment for certain maladies, we hasten to agree with him, never pausing to reflect that he does not study drugs and really knows little about them—even less than we. Moreover, he deals only with cases brought to him by the internist with a confession of the latter's failure. Little wonder that he sees in medical treatment only a record of futile efforts with imperfect agencies, losing precious time while disease progresses and life is imperiled, until what might have been an easy cure becomes a desperate chance. His experience being limited to such cases, that surgeon scarcely is to be blamed for forming his views from them.

Were it not for this weak agreeableness, the internist who really knows drugs would have a different story to tell. Take the malady featured by gallstones. When one has treated this disorder for thirty years, successfully, with a long series of clinical cures, he must dissent from the "no treatment but surgical" shibboleth.

Consider the pathology. Biliary calculi are formed upon foci derived from inflammatory deposits. Inflammation is caused by invading bacteria—the colon bacilli—from the duodenum. The calculi only irritate when the biliary passages are inflamed, while at other times the patient is unconscious of possessing the concretions. The pain ensues when a calculus leaves its habitat, enters an inflamed biliary duct and excites spasm of the circular fibers, inducing exquisite pain, and then being held there until the irritability of the spastic fibers is exhausted and they relax, permitting advance of the calculus until it encounters a fresh set of fibers, where the process is repeated, until at last the stone rolls out into the gut, and relief ensues.

The points for therapeutic attack are the infectious inflammation of the biliary passages and the spasmodic contraction of the circular muscular fibers. Cure the infection, and the stone is of no more consequence than a bullet encysted in nonvital tissues. Relax the spasm, and the obstruction to the egress of the stone is removed. There is here no thought of effecting solution of the calculus—that is a surgical idea, the conception of one who is engaged in remedying mechanical difficulties by mechanical means. We deal with deranged physiology.

Regulate the personal and domestic sanitation. Clear the bowels, keep them clear, and disinfect them with a sufficiency of sodium sulphocarbolate—average adult dose 40 grains daily. Incite healthy gastrointestinal digestive secretions by minute doses of emetine, rhubarb, hydrastis, or juglans, or of lobeline; any of these will answer, provided enough is given—just enough to incite normal secretion, not an excess. Meanwhile give sodium succinate, 5 grains four times a day, as a specific to quell the infective cholecystitis and cholangitis. Other remedies *may* do this—the succinate *does* it. Arrange with the patient to keep up this treatment for one year, telling him the paroxysms will recur, but less frequently and less severely, until well within the year they will cease. Continue as long as a trace of bile is detectable in the urine and one month more. Test for indican also, and, if found, repeat the cleaning-out process.

Meanwhile—the paroxysms! Be it remembered that the pathologic factor—the algalogic factor—is spasm. Hence the indicated remedy is not so much an anodyne as an antispasmodic.

Here the great antispasmodic triad comes into play: glonoin instantly to relax the constriction, hyoscyamine to deepen and prolong this effect, and strychnine to increase the activity of both and to restore that centric nervous control the loss of which is denoted by involuntary spasm. Of each 1-250 grain, administered in the mouth for speedy action, and repeated every ten minutes until suffusion of the face indicates full action.

Should there be any considerable pain remaining, a few whiffs of chloroform may complete the relief. But if this does not occur or if the pain recurs repeatedly without abatement, I should take it as an indication of the presence of an impacted stone too large to pass the ducts, or of some other mechanical condition demanding surgical intervention, imperatively and immediately. There are readers who will feel that this last statement weakens the force of my argument, for men are impressed by radical, unqualified assertions; but I care more for the truth than for the argument or the arguer.

By this treatment we avoid the most imminent peril of these paroxysms, which is resort to morphine. Too often the ready resort is made to the hypodermic syringe; the pain nullifies the drug, the dose is repeated, doubled, at last a desperate one is given—just then the stone escapes into the bowel, the pain antagonism ceases, and the patient dies narcotized. Less peril and far more relief follow the use of hyoscine and morphine, for hyoscine is quite equal to hyoscyamine and far superior to morphine as an antispasmodic. Still, my individual preference is for glonoin, hyoscyamine, and strychnine, for the reasons given, and because they do not mask the indication for surgery.

For the unendurable itching following the paroxysms, we have a perfect remedy in pilocarpine. Give a full sweating dose hypodermically, 1-6 grain, and relief is certain.

For some years I have employed dioscorea as a succedaneum for the powerful antispasmodic combination, and in milder cases, giving 1-6 grain of the concentration in a little hot water, every ten to thirty minutes as required to relieve, and have found it effective. This is also a useful remedy for the period of soreness following the passage of a calculus.

In France, boldine is praised highly as a remedy for this and other hepatic maladies. Its exact function has not been determined, but in small doses, 1 to 3 milligrams daily, it increases the excretion of urea. It deserves study, as do chionanthus, collinsonia, and that storehouse of remedies, chelidonia, which surely among its seventeen alkaloids contains some principles of value in relieving human ailments.

With an experience of over thirty years in accomplishing the clinical cure of gallstones by this method, we claim the right to dissent from the "no treatment but surgical" creed put forward by men who never employed my method, and who would not know how to apply it, since they are unaccustomed to handling drugs scientifically. I say advisedly, "clinical" cure. I do not base my claims on autopsies showing solution of stones, for our patients have afforded no chance for autopsies, and they would not prove the solution of a stone by its absence. But when the clinical evidence of the disease is complete, so as to justify a surgeon in advising operation, and under our treatment all symptoms cease and remain absent for years, the "clinical" cure is sufficient to satisfy patient and physician.

To shut out light and space from human eye—
Before God's footstool, to confess,
A poor soul knelt and bowed his head.
"I failed!" he cried. The Master said:
"Thou didst thy best; that is success."
—Henry Coyle.

RESULTS IN PNEUMONIA

The last word on the treatment of pneumonia will never be said. When the lancet ruled medical practice, this malady formed the battle-ground of warring therapeutists; and it does so yet. Scarcely a year passes wherein a new method of treatment is not advanced that, in the view of its presenter, is the only correct one and should replace all its predecessors. Withal, the medical body is so poorly satisfied with its results that the leaders acknowledge their inability so much as favorably to influence the course of the disease.

There is one exception—one part of the profession adheres to its methods and is satisfied with its results. Judge of this, and of the reasons, from a notable paper, in *Merck's Archives* for February, written by Dr. W. C. Wolverton, of North Dakota. Readers of CLINICAL MEDICINE will recall the doctor's paper on the same subject in our issue of April, 1911. Dr. Wolverton

is one of that common species, a country doctor who reads Osler and yet has eyes and brains of his own and uses them, and knows what he sees and knows, and has the courage to say so. Moreover, he has the art to tell his story in plain language. Here is his testimony:

During six years Dr. Wolverton treated 200 cases of pneumonia, "or what would have been pneumonia had they been treated on the 'expectant' plan."

"Given a patient exhibiting the following set of symptoms: Severe initial chill, following exposure; a sharp rise in temperature, pulse, and respiration; harassing cough; lancinating pain in the lateral region of the chest; scanty, viscid, rusty or bloody sputum; flushed face, often most marked on the affected side of the body; and physical signs of beginning consolidation of lung-tissue. If such a patient has not a fully developed pneumonia, how long will it be before he does have one?"

Of the 200 cases treated, 141 were croupous, 59 bronchopneumonia. As to the patients, 100 were males and 100 females; 23 were under one year (bronchopneumonia), 20 between one and two years (also bronchopneumonia), 42 between 2 and 5 years; 21 between 5 and 10; 18 between 10 and 20; 23 between 20 and 30; 25 between 30 and 40; 12 between 40 and 50; 6 between 50 and 60; and 10 over 60 years of age.

Of the 59 patients having bronchopneumonia, 5 died—a mortality of less than 8.5 percent. All were under 2 years of age. One was an Indian, moribund when first seen. Another died of an attack following a long siege of cholera infantum. Of the 141 having croupous pneumonia, *only 1 died*—a 40-year-old alcoholic who had safely passed the crisis and, owing to foolish exposure, contracted a fresh attack.

The treatment begins with emptying the bowels with a combination of calomel, jalapin, and phenolphthalein, aided by enemas. "A clean gastrointestinal tract will do much in avoiding autotoxemia and gives a clean mucosa from which medicinal remedies may be readily absorbed."

"To relieve the pulmonary congestion and restore circulatory equilibrium, quiet the excited heart and lower the hypernormal temperature and induce diaphoresis, veratrine and amorphous aconitine, in doses of 1-2 to 1 milligram each are given, dissolved in hot water, every fifteen minutes until a distinct impression is made upon the pulse-rate and the temperature begins to fall and the skin to become moist; the interval between doses is then lengthened to a half hour, and finally to one or two hours, as necessary. "In asthenic cases these doses may be safeguarded by adding digitalin or strychnine. This may sound like a therapeutic incompatibility, but Ehrlich's studies in selective cell-action, in taking unto themselves such substances as they may require, help to explain why this combination does work well in practice."

With the above treatment alone cases seen early enough may be aborted. Few go to crisis, most ending by lysis in three to six days. If first seen after consolidation it is useless to expect jugulation. The defervescents may then be given, cautiously, with advantage; they are perfectly safe if given as suggested.

Accessories of value are: inunctions of guaiacol and camphorated oil to the chest, with a cotton jacket; for the cough, a mixture of ammonium chloride, codeine, and glycyrrhiza, with bitter almond water; "potus imperialis" (or the allied neutral mixture of potassium citrate) as a cooling beverage. Strychnine and digitalin are reserved for emergencies; when needed these must be given in large doses. For cyanosis and impending cardiac failure glonoin is the remedy to be absorbed from the mouth. Oxygen is seldom used early enough. Toxemia calls for enteroclysis or hypodermoclys's. The diet is extremely limited or withheld. In a small number of cases Dr. Wolverton employed a mixed vaccine of pneumococci, streptococci, and staphylococci; the results from which were encouraging. "In two of the six cases the recovery was startlingly sudden, no other treatment having been used."

It is easy to cavil. Closet-practicians who never see the inside of a sick-room and know disease solely by its written descriptions may assert that only those cases were

or would have been true pneumonia that went through all the classic stages. Possibly the child hanging over the precipice would not have fallen, and no credit should be given the arm that drew her back from the perilous position—for in point of fact she had *not* fallen over, hence, from what did the asserted rescue save him? From a fall? But there was no fall! Both feet may have been over and no obstacle intervened between him and the bottom of the cliff; still, the child didn't fall. So, what can you make of it!

Theory is the general, experiments are the soldiers. The interpreter of the artifices of nature is experience. She is never deceived. Our judgment is sometimes deceived because it expects effects which experience refuses to allow.—Venturi.

THE ART OF PRESCRIBING

There is an art in combining drugs that few acquire. Our best formulas are old. Dover's powder, the compound tinctures of cinchona and of gentian, paregoric, the compound powders of licorice and of jalap hold their own among the elegant productions of modern pharmacy, despite their crude and unpleasant taste, because of their excellence. Another of these old formulas that has not been excelled since it was first devised is the compound cathartic pill of the Pharmacopeia. This pill contains colocynth, jalap, gamboge, and calomel.

Many times I have urged the importance of employing single remedies to meet single indications. In what other way can one ever secure that distinct idea of a disease and of its remedy than by forming a positive conception of each?

Let us see exactly the departure from physiologic function—the disequilibration—presented by the patient. Let us know the remedy that is capable of exactly remedying the disorder, restoring the weak function to full activity or moderating excess to smooth-running, normal processing.

This is the ideal toward which the study of our science and the application of our art carry us. But it is inherent in ideals that, while possible, they nevertheless are always a little beyond our reach. Disease is not always a simple matter like the disorder of a single function. Others are likewise participant in the jangle, from sameness of cause or are consequent upon the primary aberration.

Take this matter of the need for catharsis. There may be a deficiency in the sensitiveness of the intestinal mucous structures, in their secretion, in the connective-tissue tone or in the muscular contractility. Nerve, gland or muscle-cell or connective fiber may be involved. This may affect the stomach, duodenum, ileum, jejunum, cecum, any section of the colon or the rectum; or several, or all these. The neural deficiency may be centric or peripheric.

Were we able to select exactly which part and structure were affected, we might apply the single remedy and no other. But the difficulty is usually so complex that there is little discrimination possible—all need stimulation. It is like the use of six cylinders in an automobile: they give a smoothness of running not possible from fewer, because the action of each overrides in part that of the others; so that there is no perceptible starting or ending, consequently no jerk or check.

Apply this principle to our cathartics. Probably all factors of the defective function are weakened in some degree. Stimulate each of them slightly by a combination of several cathartic agents, and we get the smooth six-cylinder action.

It is probable that no two remedies exert precisely the same powers, for identity of effect means identity of cause. By uniting the stimuli of six drugs, each acting on a different part of the mechanim, we should secure a harmonious increase of activity without unduly irritating or overstimulating any one function.

One proof of the correctness of this conclusion is the universal custom among physicians of using combination cathartics. We can not always give reasons for our preferences. We know things that we can not explain. We feel or "sense" things we can scarcely claim to know.

To him who believes things don't "just happen," but that every phenomenon has its cause, this is comprehensible. It was not "mere chance" that led Chinese, Arabs, Negroes, Mexicans, Guarani, and Para-

guayans to choose, for making hot beverages, the one plant accessible to each that contained caffeine. Much less was it knowledge. All any one of them could have said, were he asked why he employed that plant alone for this purpose, was that he preferred it.

The vegetable cathartic pill of the Pharmacopeia was added in deference to the popular prejudice against mercury. The pill of aloes and rhubarb is another good one, acting on the whole bowel and later with especial power on the rectum.

Judging by a demand that exceeds a hundred million doses yearly, the Waugh anticonstipation formula has also made good. Here each ingredient was employed with definite purpose: aloin to stimulate peristalsis, emetine to increase mucous secretion, capsicum to increase mucous sensibility, atropine to lower inhibition, and, lastly, strychnine to energize all the others, incite the nervous activity and secure more action from smaller doses. The result is a well-balanced and effective combination of the six-cylinder description that, if skilfully applied, will cure most cases of chronic constipation—the purpose for which it was designed. Another excellent six-cylinder compound cathartic is that devised by Prof. George F. Butler. This is a particluarly effective, smoothly acting general cathartic.

In truth, in no department of the art of therapeutics has the use of combinations of allied remedies been so successfully applied as with regard to the cathartic group. This is really skilled prescribing. Compare it with the combination of three or more fluid extracts, each one of which contains arbutin, for bladder diseases; or or belladonna, hyoscyamus, and stramonium, where each contains variable quantities of atropine and hyoscyamine; and the difference is evident.

"We judge ourselves by what we feel capable of doing, while others judge us by what we have already done."
—Longfellow.

A LICENSE TO MARRY

Dean Walter T. Sumner's announcement that a physician's certificate would be required by him before the performance of the marriage ceremony has aroused considerable interest. One hears it talked about everywhere, and generally with approval, though some vigorous opposition is voiced. The policy of the church has hitherto been to favor the performance of the marriage ceremony unless absolute disqualifications were present, as in case of the previous marriage of one of the parties. This has been mainly upon moral grounds, following the celebrated dictum of St. Paul.

The general sentiment in favor of restricting marriage to those who are physically fit is based on the bitter experience that has come from many a wrecked life, with ruined health, poverty from which there is no rescue, and the impaired constitution transmitted to the unfortunate progeny. This marks the long progress we have taken in civilization and in the interrelations of man with man since the days when all that was necessary to consummate a marriage was for the couple to join hands and jump over a broomstick.

As usual, Boston is the first city to put the new proposition into practical effect. A man there was refused a license because he was in poor health, owing to an injury to his head, in consequence of which a portion of his skull was removed and a silver plate substituted therefor. The propriety of the restriction in this case seems questionable, in fact it appears that an opportunity had been lost for putting in operation a long felt want, and realizing a dream of the idealist.

Fervently has the philosopher wished that there might be a window to the soul, through which the thoughts and emotions of the subject might be read, not as through a glass darkly, but in the workings of the brain itself. Here is the opportunity. For the silver plate, a glass one should be substituted; and then the bride could have enjoyed the opportunity, as the groom lay asleep, of reading the various thoughts and emotions stored in the cells of his gray matter. She could have detected the first longings for a cocktail, the pull of the poker-room, have beheld the features of his affinity photographed on the sensitive films.

In fact, what is there she could not have found? It would not have been necessary for her to investigate her husband's pockets, for the fact and the location of the hidden stores of shopping material could have been detected by the examination. Altogether, as we say, it looks as if a great opportunity had been lost.

A specimen of ruthless veracity I found reported recently. The truthful, self-complacent, virtuous doctor who was used to look upon the suffering man as one of the passing meteors, said: "I am afraid your case is hopeless and you are going to die. Is there anybody whom you wish to see?" "Oh yes, by all means." "Who is it?" "Another doctor."—A. Jacobi.

POTENTIALITIES AND PRECOCITIES

Many medical journals discuss at length the claims made by Boris Sidis as to the great results of individual education. None, however, have dealt with three necessary starting points: balance, precocity or potentiality.

Man is not an entity, but a compound animal; a metazoan. As Roux pointed out ("Der Kampf der Theile im Organismus") thirty years ago, this entity is secured by a struggle for existence between the organs and structures both in phylogeny (type development) and in ontogeny (individual development). This struggle proceeds through an evolution by atrophy, as DeMoor ("Evolution by Atrophy") vividly points out. That is, primitive structures once of use in phylogeny disappear by atrophy, for the benefit of other structures useful in phylogeny. Thus, for instance, the central eye of primitive vertebrates becomes the pineal body, for the benefit of the lateral eye-type of later vertebrates.

The struggle, of course, may arrest the onward progress of embryogeny especially, inasmuch as it is fiercest at the great period of stress. At the senile, or simian, embryogenic period type development may arrest the individual so that the organism thereby acquires a tendency to pass through life's changes rapidly; a tendency voiced in the proverb, "Early ripe, early rotten." Precocity, hence, is an expression of weakness, of reversion, of degeneracy, not of advance.

This truth has many illustrations (Gould's "Anomalies"). Cratemus was an infant, youth, adult, married, begat children, and became senile, all within the short space of seven years. Louis II of Hungary was crowned at the age of two years, was bearded at fourteen, married at fifteen, was gray at eighteen, and died senile at twenty. A boy born in 1742 was virile at twelve months and died senile at five years. Of six cases of early puberty in boys, one, virile at the age of one year, died senile at five. Cazeaux reports the case of a girl menstruating at two, pregnant at eight, a grandmother and senile at twenty-five.

Premature senility may evince itself in precocities by early arterial atheroma. This has occurred rather frequently in children of vegetarian fanatics, not so much from congenital defect as from the influence of excessive starch-foods upon the arteries.

That stimulation of precocity has great danger is at once apparent. That rote educational stimulus is peculiarly evil was vividly pointed out by Dickens in "Hard Times." Its evil effect sometimes takes seemingly strange directions. G. B. Fowler (*American Journal of Obstetrics*, 1831) had under his care a 17-year-old boy of mushroom growth and hothouse culture who began every day before breakfast with a one-hour lesson in Spanish. Then, after the meal, was given, unceasingly, to French, German, music, and the ordinary school studies, until 3 p. m. This course had been begun when he was but three years of age, with continually increased pressure. The child had developed into a living phonograph enthusiastically exhibited by an admiring father. Fortunately the anal sphincter gave way, and fecal incontinence resulted. For the overtrained child was punished; and then the origin of the incontinence became apparent. The sphincter was normal otherwise than in an explosive tendency to failure. Relief from educational pressure resulted in sphincteric recovery.

Quaint as, at first sight, this point of least resistance may strike one, it really becomes of serious significance when it is

remembered that development of the rectum from the original cloaca occurred quite late in the animal scale (oviparous animals have a cloaca), and also that primitive races, even those as high as the Amerinds (American Indians) have, like degenerates, marked tendencies to constipation. It becomes evident that brain and cord gains in man have been at the expense of other organs. Of course, as Havelock Ellis ("Man and Woman"), E. S. Talbot ("Degeneracy"), and Oppenheim ("Development of the Child") have shown, man's brain, liver, lungs, spleen, heart, thyroid, kidneys, adrenals are sacrificed to legs, arms, and the bony system. The problem of potentiality, therefore, enters into the question raised by Sidis, since, as pointed out by Havelock Ellis, the child is not an undeveloped man, but man is an undeveloped child.

Man starts in life with a potentiality of ultra nomad development, but sacrifices this to the necessity of environmental adjustment. The problem of securing the best results from this potentiality resolves itself into environmental adjustment. If training be adjusted so as not merely to retain the brain potentialities but also those of the oxidizing, sanguifactive, and eliminative processes, then not only the vision of Sidis may be realized, but even the very optimistic one of Harriet Alexander (*Medicine*, 1896), that structural elaboration due to the unequal balance of degeneracy may be retained, while the degenerate organisms can be so trained as to regain function. But neither this nor the dream of Sidis is possible of realization unless the oxidizing, sanguifactive, and eliminative organs likewise are trained so as to secure their child-potentialities.

This is an application of the sound old maxim of "a healthy mind in a healthy body" to the etiologic moment furnished by the intra- and extra-uterine periods of stress. It is a maxim neglected by the eugenists, who make a fetish of heredity.

EDUCATION THE PRIME NEED

The science and the art of medicine had their beginnings in the ancient temples of the gods, for at those earliest times it was recognized that the care either of soul or of body was facilitated by the care of both. As men began to specialize in their vocations, the professions drew apart, for the mental capacities of those engaged in each were fully engrossed in the work of mastering each his own department.

But as surely as men attain that higher knowledge that correlates all knowledge we find the learned professions again drawing together. For in medicine, in law, in politics, in religion, in all the studies we may group under the designation of anthropology—giving that term the widest possible significance—the development of our investigations leads us to a common ground. Trace any of the evils that beset man, and we find disease, want, crime springing from a common source, even as the fabled monster of mythology possessed three heads springing from a single body.

In this, also, we recognize, as the common underlying cause of all human ills, ignorance. Ignorance of the laws of physics, of the laws of economics, of the laws of hygiene leads alike to poverty, to disease, to crime. Hence, education is the prime need of the race; and by education we mean not only the acquisition of facts and the development of the reasoning faculties, but the cultivation of the moral sense as well. So it is that the highest type of the physician is he who yet retains a certain sense of the obligations of the priest. The first qualification he can have as a physician is the fear of God. The most disastrous and uncontrollable diseases he can be called upon to treat are those directly traceable to his patients' immorality.

The engineer who imperils his own life and that of others' lives upon a bar of steel suspended over a torrent or high above the busy street knows the value of honest work, and fervently hopes that that same fear of God was in the heart of the men who forged that beam.

Without the general respect for law, without that regard for truth that gives the witness credibility, without the self-restraint that the religious principle imparts to us, mankind would degenerate into a rabble and all achievement become im-

possible. Every vocation of man, the whole social system itself, the possible ownership of property depend upon that moral force that constitutes civilization.

The recently evident tendency for the various branches of the learned professions to group themselves about the mother of them all is, therefore, in no sense a step backward, but an evidence of that higher development that brings all seekers after Truth finally to the same goal.

The merely empiric knowledge of the effects of medicine has given place to experimental knowledge: the uncertainty of big nasty bottles to the certainty of small, palatable and digestible doses.—A. Jacobi.

WALKING FOR EXERCISE

American Medicine for Nobember last discusses, editorially, the importance of walking as the best exercise, and describes in great detail and interestingly the method which should be followed in walking. It is very true that all forms of exercise requiring apparatus or special skill will rarely, if ever, be practised persistently, even if regulated properly by the physician, while, on the other hand, walking, if prescribed, can be indulged in at almost any time and to any extent that may be desirable or permissible.

Taking for granted that the patient knows how to walk properly, or, correcting his mode of walking if he does not, short walks should be ordered at the beginning, those of the first day or so not to exceed half a mile. It is a good idea for the patient to get a pedometer and to regulate his walks by this little instrument, which, while not absolutely accurate, still gives a sufficiently good idea of the distance covered, and adds new interest and zest to the walking. Each day the walk should be in a different direction, and the distance gradually increased as the patient develops his gait and loses the sense of effort and fatigue. Almost before he realizes it, one often can walk ten to fifteen miles without the slightest fatigue. From now on the benefits become manifest, and the daily walk often proves so refreshing and invigorating that the patient is much upset if he has to forego it, and he actually misses the beneficial effects.

It is unfortunate that in this country walking is practically a lost art, while the English, who are known to be great walkers, and also the Germans, derive an untold amount of enjoyment from this healthful and invigorating exercise. In Switzerland, schoolboys and students are wont to spend their vacations on walking tours, taking the railroad only to carry them to the starting point, and walking from there from five to twenty and thirty miles daily, as the case may be.

The present writer remembers walking distances, when a boy, with no more than a passing fatigue in payment that he should shudder to contemplate now; and, yet, the thing is quite possible even in our country, and it seems that a vacation would be well spent on a walking tour through Michigan. through Wisconsin, through the Green Mountains of Vermont, through the mountainous portions of the western states, and through certain portions of Canada—merely to name specific examples.

With a proper preliminary preparation, especially a suitable physical training, walking tours are not only conducive to health and recreation, but they tend to restore health and to relieve brain fag.

When any person, physician or layman, undertakes to medicate himself he is almost sure to use the wrong drug, and he is certainly prescribing for the wrong person.—Solomon Solis Cohen.

ARE MEDICAL MEN CLOSE OBSERVERS?

It is generally supposed that physicians are paying close attention to all items of interest that may confront them in any particular case under their treatment; and it is still more presumed that scientific research-workers should be close observers. In fact, it is not unreasonable to expect that the habit of observing closely should become general, and should become firmly instilled.

This writer had, recently, an amusing experience which shows that medical men are not always such close observers. Having had occasion to send out several thousand reprints of a paper which he had published in one of the medical journals, he

naturally was inundated with acknowledgments by which the courtesy was returned by a like courtesy of thanks. This was all very pleasing and was fully appreciated; but, although it is a common custom to have the residential town of the author on the cover of the reprint and to have his office address at the end of the paper, it happened, in the case of a great many physicians who are themselves voluminous writers and hence should know the custom, that they either neglected to furnish the office address, or that they did not even direct their acknowledgments to the proper city. The writer confesses that his fond idea that physicians were close observers has received rather a jar.

POVERTY AND VITALITY

Prominent among prevalent popular errors is that which regards the children of the poorer classes as superior in vitality to those of the rich and looks upon wealth and ill-health as synonymous. Dr. Humphreys has shown that measles is ten times more fatal among children of the indigent than among the rich; typhus, five times as fatal; convulsions, thirteen times; and scarlet-fever, twice as fatal. Rich and idle people live longest and professional men next, while hard work everywhere shortens life. When it is remembered that the homes of the poor as well as the factories and shops are usually unsanitary, and when it is further remembered that child labor has been a feature of social conditions even among English-speaking peoples, for the last three centuries at least, this diminished vitality can be regarded as only a natural result.

Americans do not enjoy the vitality which Dr. Humphreys has found among the wealthy classes of England, and for obvious reasons. The well-to-do Englishman usually retires from business when he has achieved a competency, or studies science at the same time. The American does not. In this way the Englishman escapes that most devastating influence of emotional overstrain from anxiety. The same statement is true of the professional classes of these two countries.

Emotional and moral anesthesia, as well as the freedom from emotional overstrain, plays a large part in determining long life. Professional paupers and other degenerates, for this reason, live long after they have passed the great periods of stress. Goethe acknowledged this when he wrote:

> . . . . The method is revealed:
> Without gold, or magic, or physician
> Betake thyself to yonder field,
> Then hoe and dig, as thy condition;
> Restrain thyself, thy sense and will,
> Within a narrow sphere to flourish.
> With unmixed food thy body nourish;
> Live with the ox, as ox, and think it not a theft
> That thou manur'st the acre which thou reapest,
> That, trust me, is the best mode left
> Whereby, for eighty years, thy youth thou keepest.

The popular opinion that long life is the test of vitality in a family is demonstrably erroneous. The average degenerate family contains one long-lived emotionally and morally anesthetic member and several members who have died under the age of five.

The vitality of long life as an evidence of biologic strength turns upon the environment in which the life has been led. Judged by this standard, general vitality has risen because of the general intellectual improvement, not because of an increased moral and emotional anesthesia. For this reason, men of broad culture are found far more frequently among octogenarians, nonogenarians and centenarians than formerly, culture having fitted them to the strenuous intellectual life.

The American business man, unfortunately for himself, has the philistine notions of rural communities as regards aught but money-making. English business men are prominent among scientists, but no American business man has attempted to rival the fame of Franklin. Scientific business men, especially if bankers, like Lord Avebury, would be looked upon in America as monstrosities deserving treatment in an insane hospital. Although America has had a banker-poet—Stedman (who is on a level with the English banker-poet Rogers), still, certain professors of literature in subsidized universities have held that creative power needed in money-making must of necessity debar either scientific or literary success from a financier.

One factor of vitality is the use, or otherwise, of alcohol. According to the editorial columns of the average newspaper, even the moderate use of alcohol is destructive of vitality, but according to the advertising columns, a certain whisky, so numerous nonogenarians and centenarians testify, has been the chief cause of a vigorous old age. Comically enough, some statistics regarding centenarians, if analyzed, would tend at first sight to support these claims, as the proportion of occasional drunkards among centenarians is rather larger than the proportion among the ordinary population. The usual half-truth of analyzed statistics is here noticeable, since the morally, emotionally anesthetic degenerate does not display the usual degenerate intolerance of alcohol which creates so many total abstainers and alcoholophobiacs.

The influence of alcohol in the production of disease and social defects, is, however, overestimated, as it is more frequently a consequence than a cause, while, at the same time, it aggravates the conditions that produced its abuse. The influence of emotional overstrain of poverty in lessening vitality is equalled only by that of the speculative atmosphere—the great cause of conditions, like paretic dementia, that sap the vitality of the business man without culture.

FECAL TOXEMIA AND NASAL CATARRH

In *The New York Medical Journal* for March 2, 1912, Samuel Floersheim, of New York City, presents a paper entitled "Chronic Excessive Intestinal Putrefaction as a Factor in the Production of Disturbances of the Nasal Mucous Membrane."

The author very properly modifies his statement by denying that he looks upon this as the only cause of rhinitis. It is only yesterday that people began to realize that it was one of the causes. The intestines contain many kinds of bacteria. Of these, some species cause fermentation and others putrefaction, processes totally different in their nature. Thus sugar and starch ferment, but do not putrefy; albuminoids and proteids putrefy. The products of this putrefaction acting upon the nerve-ends in the nasal mucosa, when carried to them by the blood, give rise to changes in the blood supply and the nutrition, thereby producing pathologic conditions.

Bassler enumerates the following diseases believed by him to have, as their supposed obscure etiology, an underlying chronic excessive putrefaction going on in the large intestine: myocarditis; chronic essential asthma; chronic nephritis; chronic hepatitis; chronic cholangitis; cholecystitis; cholelithiasis; chronic gastric and intestinal atony; chronic low secretory and motor conditions of the stomach and intestines, and excessive sensory conditions of the former; the mysterious peritoneal and omental adhesions; chronic constipation of dynamic and atrophic origin; chronic colitis, from simple catarrh to the membranous and atrophic forms; chronic indigestion (intestinal), with fat, sugar, and starch intolerance; arteriosclerosis; premature senility; pseudopernicious anemia and the true types following gastrointestinal atrophy; chronic simple anemias; gout; intractable neurasthenial habitual headache; insomnia; catarrhal affections (particularly the general forms with atrophy of the submucous tissues); chronic backache; debility; neuralgias; loss of sexual power; loss of weight and strength; mental fatigue on slight exertion; mental confusions; excessive emotional depression and irritability; semiinvalidism; vasomotor disturbances; degenerative states of the central and peripheral nervous tissues; functional eye conditions; hypertrophy of the lymphatic tissues; atypical rheumatism, myalgia, and polyarthritis or arthritis deformans.

Among the diseases mentioned those interesting us are: essential asthma; arteriocapillary fibrosis and chronic hypertension without sclerosis; premature senility; pseudopernicious anemia; chronic simple anemia; gout; intractable neurasthenia; habitual headache; catarrhal affections, particularly the general forms with atrophy of the submucous tissues; neuralgias; vasomotor disturbances; functional eye conditions; hypertrophy of the lymphatic

tissues; atypical rheumatism and polyarthritis.

The obscure etiology of these disorders may be found in the chronic state of putrefaction presumably going on in the large intestine. The large bowel is the principal offender. Absorption from the colon is limited to water and substances soluble in it.

When pathologic conditions of the colon exist, putrefaction goes on rapidly, the products being ammonia, sulphureted hydrogen, phenol, and so on, which are taken up by the circulation and carried to all parts of the body, including the central nervous organs. They may cause pathologic changes here or upon the nerve-endings and blood supply. From this we have disturbed innervation of the tissues, interfering with the blood supply and secretion. The removal of waste is retarded also. It is not difficult to detect putrefaction in the large intestine by a chemical examination of the urine.

Such papers as the one before us mark the rapidly growing recognition of fecal toxemia as an etiologic factor of localized disease. They also mark the development of a wider ideal of specialism—the specialist who applies to the diseases of his selected organs a knowledge of general physiology.

Idleness is the hotbed of temptation, the cradle of disease, the waste of time, the canker-worm of felicity.
—Edmund Burke.

LOST—BUT THEY DON'T KNOW IT

There was a man who spent a week in Chicago supposing himself to be attending the great World's Fair. On his return to his eastern town, he found he had never been in the Fair, but had put in his time in the Midway.

Recollection of this probably apocryphal anecdote comes to me when I see what many of my colleagues are doing with the active principles. To many these are merely a rather better line of preparations, to be substituted for the parent plants and used in strict accordance with the applications made of the latter. These men haven't passed the gate of the Fair.

The powers of the alkaloids have been worked out with a precision impossible for other drugs, excepting the pure chemicals. These exact remedies are applicable to the treatment of pathogenic conditions, as these are presented by the patient. All the doctor has to do is, to note the physiologic disorder, then apply the remedy. It is all so simple, and the results are so sure, that the practice of medicine becomes charming, from the ease with which the indication is determined. When one has used his own eyes, ears, touch, and brains, and knows the confidence imparted by the realization that he has done exactly the right thing, and that the result *must* be what he wishes, he has attained a higher plane than the giver of set formulas devised by other men for other cases.

But there is one step we shall never take, much as it would please some of our antagonists. What full stores of sarcasm, what floods of ridicule they have in stock, waiting the day when we shall advocate the exclusive use of the alkaloids!

Needless to wait—we shall never do it. We hold fast to the only truly ethical practice, that of using whatever we believe to be best for our patient, be it alkaloid, salt, tincture, cataplasm, virus, bacterin, x-ray, common sense, or the surgeon's knife. We cling to many an old and tried formula. We prefer cannabis to cannabin, senna and rhubarb to emodin, and refuse to depart from the straight road, the basal principle.

But we do say, Study the active principles as well as those methods alone made possible by their adoption. It is well worth while. Your therapeutics will acquire a power you never realized as inherent in drugs. You will be an active, dominant factor in the case, instead of a benevolent, passive spectator. You will do things, because you know things.

PRESCRIPTION BUILDING

In *The Journal of the Michigan State Medical Society* for March, 1912, B. R. Schenck proposes a combination of morphine with physostigmine for the pain following abdominal operations. This paper is notable for the example it gives of the newer prescribing, with its scientific basis and accuracy, and because it then

introduces, quite unnecessarily, an advertisement of a commercial house into the reading pages of a state journal that has been somewhat outspoken in its condemnation of independent medical journals for alleged commercial domination.

But, as in eating pecans, we shall try to enjoy the kernels and avoid the bitter. Morphine is employed, for the relief of postoperative pain, by surgeons who do not care or dare to avail themselves of hyoscine, morphine and cactin (when all such procedure is unnecessary), to quite widely different degrees. Schenck says: "Were it not that morphine inhibits peristalsis and thus predisposes to meteorism, and that nausea and vomiting are prolonged when the drug is given freely, it would be universally used in sufficient quantities to insure comfort to the patient." The addition of a drug which would completely antagonize its paralyzant influence over the intestine would furnish an ideal analgesic. While physostigmine may not completely meet the need, it does so to a considerable extent.

Von Noorden, in 1901, seems to have been the first to recommend physostigmine to stimulate the intestinal walls. Moszkowicz, Arndt and Maragliano first employed it for postoperative cases, and its use for relief from immediate meteorism is now quite universal. After distention has occurred, its value is questionable, and it is contraindicated in ileus due to peritonitis or to mechanical causes.

Physostigmine probably acts on the intestinal musculature by depressing the spinal reflex, lessening splanchnic inhibition, and by a selective action on this muscle. Medicinal doses affect the circulation slightly, increasing vascular pressure and slowing the pulse—easily reversed by elevating the doses. The respiration is little affected, the nerve-centers are slightly sedated. The latter effect, we may interject, is more decided if the pupils are dilated. Doses of 1-75 grain, he says, are safe.

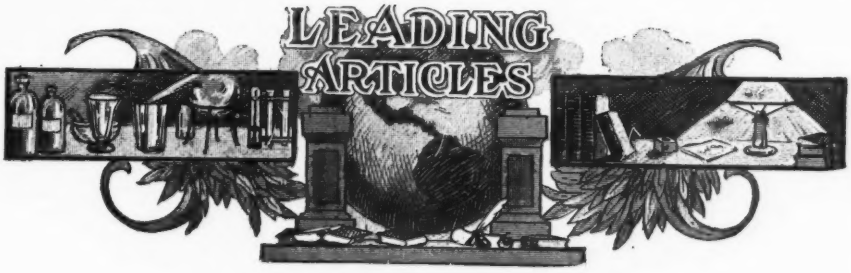
Stevens reported on a woman who took, by mistake, after operation, hypodermically, 2 grains of physostigmine. It acted on the bowels in two minutes, respiration was weakened, pulse became imperceptible. She remained unconscious twelve hours, but recovered without further ill-effects. The writer has seen quite decided relaxation follow doses of 1-50 grain. Since atropine antagonizes physostigmine along its entire line, except as to increasing peristalsis, the former is the physiologic antidote.

Craig employed physostigmine as a prophylactic against postoperative distention, finding that morphine was then rarely needed, and then only for distinctly extraabdominal pains, when morphine or codeine could be given freely, as there was less danger of constipation following.

Dr. Schenck had tablets prepared of morphine, gr. 1-6, and physostigmine salicylate, gr. 1-75. He reports 15 cases in which these have been utilized. These were simple cases, without infection, intestinal injury or other complication. Intestinal quiet was not needed, and there was no danger of masking important features. He says: "Since using this combination tablet, I have not had an instance of distention, even in the slightest degree, except where but one dose was given. The use of laxatives, other than a very mild pill on the fourth or fifth day, has been discontinued, and I am certain that my patients have suffered less than formerly."

Schenck's method is commendable; of the proposed tablet I do not approve. The interrelations between morphine, physostigmine, and the human body are not chemical but vital; the reaction of the body against each ingredient is not uniform but varying with each individual. Some are peculiarly susceptible to physostigmine, others to morphine.

Ready-made combinations are handy for the doctor who does not take the trouble to make his own calculations. Some synergistically balanced are good, always, but, with all due respect for the average doctor, he needs nothing to encourage him in laziness. "Every man is as lazy as he dares to be"; and the daring of some amazes one. The hypodermic cases contain tablets of morphine and of physostigmine, and these may be dosed to suit the case better than by having a set dose of each in a single tablet.



Medical Photography

How the Physician May Apply the Photographic Art to His Work

By MALCOLM DEAN MILLER, M. D., Brookline, Massachusetts

Associate Editor of "American Photography"

EDITORIAL NOTE.—Dr. Miller is not only an able practitioner (an enthusiastic active-principle man, by the way) but he is a skillful photographer, and a voluminous writer upon photography. We feel sure that thousands of readers of "CLINICAL MEDICINE" will enjoy and profit by this paper, which will be concluded in our July issue.

PHOTOGRAPHY has come to occupy a most important field in medicine as well as in other branches of scientific study. Its value as a quick and accurate means for producing records is universally recognized. So, also, is its benefit as a means of recreation for the busy practitioner. The use of the art in illustrating case-histories has become so general that there seems to be no good reason why every physician should not do his share in advancing medical knowledge by taking pictures of cases, specimens, apparatus, and other subjects suitable for elucidating some important point. Having had some ten years of experience with general as well as with medical photography, the writer feels that possibly he may be able to offer hints of value to practitioners who would like to make their own photographic records.

Why Physicians Should Themselves Do the Photographing

One of the strongest arguments for the doctor as a photographer is found in the fact that patients object to being taken by amateur or professional photographers who are not physicians. This delicacy should be encouraged. Another reason is, that the doctor knows what points he wishes to bring out in the pictures, whereas this often is very difficult to explain to the photographer.

If it is really necessary to accompany another person while the pictures are being made, in order to insure the desired results, the doctor might just as well make the exposures himself. Furthermore, even commercial photographers often are too conservative in adopting the methods and materials necessary for the best results; yet the physician is not bound by considerations of financial profit or desire to avoid the use of special plates. Influenced by such arguments, many of our best men have taken up medical photography for their own work. The doctor who is willing to devote a little time to study can easily learn to make fine pictures and command his own price for doing work for neighboring physicians.

Lest the reader think the problem too easy, let me state that the field is a specialized one and full of difficulties which are not met with in general amateur work. There is, however, no reason why the obstacles should deter any member of the profession from taking up the study and mastering the difficulties. All that is

needed is a method based on scientific principles.

The Apparatus Requried

Coming now to the instruments, the first problem, whether to use films or plates for the negative, may be settled in a word: glass plates are positively more suitable for any kind of scientific work. Record photographs must be critically sharp all over. Roll-films and film-packs do not lie perfectly flat at all times; and if the film is buckled, the picture may be out of focus and useless.

The best camera, then, is a plate-instrument. The size may be chosen as much for economy as for convenience. The smallest useful plate is 3 1-4 × 4 1-4 inches, which is very suitable for printing lantern-slides by contact, the standard lantern-plate being 3 1-4 × 4 inches. A better size, and which costs but little more, is 4 × 5 inches. The essential adjustments are: bellows draw twice as great as the focal length of the lens, to allow working close to the subject or copying full size; rising and falling front; and vertical swing-back.

A splendid instrument of this type is the Korona V, as it is perhaps the best all-around style of camera for employment in general photography. This camera is listed, complete with lens and shutter, at $35.00, but is being sold at a substantial discount. One particular advantage is its adaptability to wide-angle work when the bed of the instrument is dropped and the supplementary wide-angle bed used. The regular lens and shutter equipment supplied is capable of doing good work, although not yielding critically fine definition over the entire plate at a large aperture.

The next larger standard size is 5 × 7, which, although somewhat more expensive, is even more generally useful. However, if this size is to be chosen, I think it advisable to purchase a view-camera. The one here shown has extreme rigidity, an extra large lens-board, to accommodate modern fast lenses, front and back focus by rack and pinion, rising and falling front—in fact, it is the best all-around camera for medical and general photography. My own camera is of this type, in the 6 1-2 × 8 1-2 size; still, the 5 × 7 is preferable for most work because of the lower price and cost of supplies. In fact, I more often use 5 × 7 plates in wooden kits than I do the full-size ones; and the same thing may be done with the 5 × 7, the kits taking 4 × 5 plates. If the picture is perfectly sharp, it will bear enlarging to 8 × 10 without loss of detail.

The folding metal tripods are quite unsuitable for fine work, because they are so light and wobbly that the camera is likely to vibrate during the exposure. My preference is for a good wooden tripod, folded. I recommend the No. 2, selling at $3.00, on account of its rigidity. Mellen's folding metal tripod-stay should also be purchased. It prevents slipping on hospital or other smooth floors, and it strengthens the tripod remarkably.

Coming now to the lens—the most important item of the outfit—I recommend an anastigmat. The rapid rectilinear lenses usually sold with cameras have good definition only in a small circle at the center of the plate, unless used with small stops—often a great drawback in medical work. Their field is curved, so that it is impossible to get critical sharpness all over the picture. Astigmatism is marked, and some spherical aberration is usually present.

Anastigmat lenses are free from all these defects and cover the entire plate with exquisite definition when used wide open. For this reason they permit much shorter exposures, as they do not have to be stopped down, unless the subject has planes rather widely separated and not capable of being sharply focused with a large stop. Short exposures are of the utmost importance, because the amount of softness, which makes a portrait pleasing, would ruin a picture of a skin lesion, for example.

The problem is, to select a lens which will leave sufficient depth of field and at the same time a very large relative opening. The first requirement necessitates a lens of rather short focus, because depth decreases as the focal length increases. The second requirement, however, is less important, because it is better to have a very fast lens which will give sufficient time with a quick exposure, even if depth is

diminished by using a very large aperture. It is all a question of compromise, for one cannot have speed and depth at the same time. The lens of great aperture can be stopped down to secure more depth if circumstances will permit a longer exposure.

In my own work, I have found it a handicap to use a long-focus lens of relatively small opening, for all that I gain in size of image is lost, owing to the long exposure required. My outfit, however, was selected for general amateur photography, and my advice to the reader is based upon experience of its defects for strictly medical work. I should now prefer to work with lenses such as I recommend, contenting myself with a smaller image and enlarging it for the final print.

The simplest anastigmat is the Cooke lens, which is made up of three single glasses. I have a 6.01-inch, series III, *f*:6.5, for my 4×5 camera, and an 11.1-inch, series V, *f*:8, for my 6 1-2×8 1-2 camera. For the smaller size I should advise either the 6 1-2-inch, series II, *f*:4.5 or the 6-inch, series IV, *f*:5-6. Owing to the short focus, either of these would give plenty of depth of focus when used wide open. Suitable lenses for the 5×7 size would be the 7-inch, series II, or the 8-inch, series IV.

The Euryplan lens is another most excellent objective. It can be had in the same speeds as the Cooke lenses already mentioned. The Wollensak Velostigmat, *f*:4.5 is another beautiful lens. The cut shows a series i, *f*:6.8 lens mounted in an Optimo shutter. This is a satisfactory piece of mechanism for regulating exposures, although one uses "time" and "bulb" exposures far oftener than the automatic speeds. The 1-5 and 1-2, however, are most useful in strong light indoors, when used with a fast lens.

The speed of a lens is measured by the diameter of the effective aperture, and "*f*:4.5" means "focal length divided by 4.5." The stops are arranged so that each smaller size (larger number) shall require just double the exposure of the preceding one. The exact series usually runs: *f*:4; *f*:5.6; f:8; *f*:11; *f*:16; *f*:22; *f*:32; *f*:45. Thus *f*:4.5 is almost four times as fast as *f*:8, and *f*:5.6 is just twice as fast as *f*:8, which latter is the largest opening of most rectilinear lenses. For further details I would refer the reader to my monograph on "Beginner's Troubles," No. 114 in the "Photo-Miniature" Series. Any questions not there explained I shall be glad to answer through my department, "The Tyro's Troubles" in *American Photography*.*

LEPROSY PATIENT IN BED IN DETENTION HOSPITAL

11-inch Cooke lens; 3 seconds at *f*:8 on Vulcan plate. The face was covered with ointment but the tubercles can be seen.

Some medical work requires slow snapshot exposures indoors, and for this class of

* I shall be glad to send a sample copy of this magazine to any reader of CLINICAL MEDICINE. Address me, care of "American Photography," 221 Columbus Ave., Boston, Mass.

Leprosy. 11-inch Cooke lens at *f*:8; about 6 seconds macules and tubercles on thigh; old scar on shin near knee; ulcerated tubercle on lower leg. Vulcan plate

subjects one must use the fastest plain bromide plates, such as Lumière Sigma, Wellington Extra-speedy, or Defender Vulcan. The first-named is the fastest plate made, and the others are almost as rapid. For general work, however, I prefer a plate sensitive to yellow, because it gives better rendering of skin and does not photograph violet and blue much too light. One of the best plates of this type is the Defender Nonhalation Ortho. It has two films; the under one very slow and opaque; the upper, quick. It is practically free from the defect known as halation, an effect due to reflection of light through the film from the glass side, which causes a blurring of fine detail or even a definite halo around light objects. When quick exposures are necessary, this plate may be used without a screen; but the best results are obtained by using a yellow ray-filter. This filter is particularly good for taking skin diseases. For the best possible rendering of colors, a plate sensitive to red should be employed; always with a filter, whenever possible.

The "Isos" series, made by the G. Cramer Dryplate Company, of St. Louis, are very good filters. The Isos I increases exposure two times; the Isos II, three times; the Isos III, five times. The last-named is the best to use with the red sensitive plate, viz., the Cramer Spectrum, with which it reproduces colors just as dark or as light as they appear to the eye, according to their relative values. In fact, the spectrum plate used without a filter gives as good rendering as the Ortho when used with the Isos III, so it should be chosen for skin pictures, and be used with or without the filter, as may be necessary. Quick exposures are the greatest desideratum in this branch of medical photography.

Time of Exposure

There is just one precise and scientific way to calculate exposures in daylight, and that is by the use of an actinometer exposure-meter. This instrument contains a disc of bromide paper which is darkened when exposed to light passing through the wedge-shaped opening shown in the cut. The time it takes in which to become as *dark* as (*not* the *color* of) the darker painted tint represents the actinometer-time. From the value thus obtained, the exact time of necessary exposure is readily calculated by means of the accompanying scales—the speed of the plate and the stop in the lens being known. The lighter painted tint is the quarter tint, and is used indoors. Sometimes a sixteenth tint, viz., the first visible darkening of the paper, is even more convenient.

Let us take an example. You wish to photograph a case of psoriasis, indoors, on a

Chancre of the tongue. Quick bulb exposure on Cramer Isos plate with 11-inch Cooke lens at *f*:8. This picture should have been made at a greater distance to secure better focus. Taken near a window.

Cramer Spectrum plate with Isos III filter. Focus, the subject on the lens, with the filter in place, and stop down, if necessary, to, say, *f*:11. (We will suppose that you are working close to the patient and must stop down to get him in sharp focus. Hold the meter to the light in the place occupied by the patient and note the number of seconds it takes a fresh—yellow—portion of the paper to show a faint gray tint (the sixteenth tint). Suppose it is 4 seconds. The actinometer-time, then, is 4×16, or 64 seconds. The speed of the Spectrum plate is 130. Place F 11 in the column over "Stop" against 180 in the column over "Plate," and then opposite 65, in the column over "Light," will be found the figures 3-4. And this means 3-4 of a second of exposure. The Isos III filter requires an increase of 5 times, hence you would give about 5 seconds. With the same plate, no filter, and stop *f*:4.5, the exposure in that same light would be about 1-8 of a second, say the marked 1-5 on the Optimo shutter.

This system allows the veriest beginner to get absolutely correct exposure every time and at once does away with all troubles both in exposure and development. Directions come with the meter, and a few trial exposures will put one on the right track at once.

Flashlight Exposure

Very often it is far better to use flashlight than daylight; first, because it allows instantaneous exposure, and, second, because one can often get a better lighting than is possible through a window

A Topographic View of a Skin Case. Two seconds at *f*:8 on plain plate in skin room of Boston Dispensary which has a good skylight. The color values are inaccurate—reds too dark.

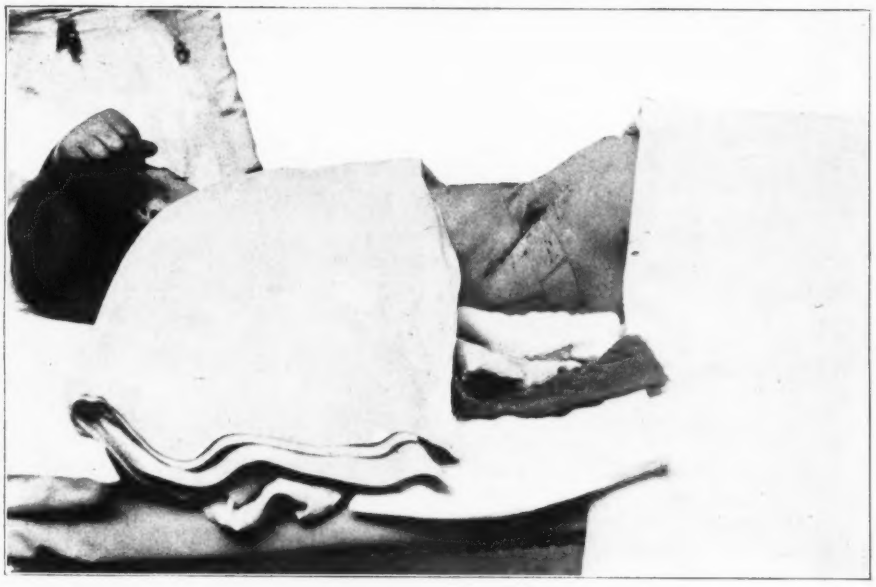
THE HALL OF THE BOSTON DISPENSARY.
Made with one-half ounce of flashpowder. 11-inch Cooke lens stopped to *f* : 22

in the office, home, or hospital. The simplest and best device for setting off the flash is the "Agfa" flashlamp. The Agfa powder used with it is practically smokeless and noiseless in the small quantities needed in medical work. As you doubtless know this device may be held in the hand or placed on a stand. The flash may be used day or night. Set up the camera and focus. Set the shutter for "bulb" exposure and charge the lamp. Press and hold the camera-bulb and ignite the flash, letting go the bulb as soon as the flash has occurred.

This system certainly is extremely simple, because all one has to do is to measure out a certain weight of powder for a subject at a certain distance with a given stop in the lens. Full tables and directions come with the powder. The beauty of it is that the subject does not have time to move and blur the picture. Besides, the lighting is usually more even and details are brought out better. If the lens has to be stopped down, one simply increases the charge of flash-powder.

Unless one is operating in a room with a great flood of daylight, suitable backgrounds, white reflectors, etc., the flashlamp is to be preferred to daylight. Even in the skin-clinic of the Boston Dispensary, in a room well adapted for photography, I have lost as high as 50 percent of my plates because the breathing of the patient made the detail a trifle blurred during a time-exposure of moderate length, say 2 seconds. With the lamp one can get a good picture almost every time.

The position of the flash is the only thing to think about. For skin, as flat a lighting as possible is advisable, that is, the flash should be above the lens. Cases of other kinds should be lighted a little from the side and above. For example, a seated figure should have the lamp held about a foot above the head and the same distance to one side. Few record pictures should be treated as one would light a portrait, because in most instances detail and not modeling is what one is after; so there should be no marked shadows. A



Scar of Renal Operation.
One second at *f* : 11 in a surgical amphitheatre. 11-inch Cooke lens.

white sheet may be used to cast light over and brighten the shadows; and a piece of cheesecloth hung about two feet in front of the flash is also advisable. One of the best arrangements is to fix the lamp to a music-stand and provide a light metal frame to carry the diffuser. Such a lamp is portable and efficient and some of our best medical photographers use it almost exclusively.

Developing the Negatives

Modern methods have made it unnecessary to provide a dark-room for developing. Plate-holders may easily be loaded and unloaded and the developing-tank charged with exposed plates in the Ingento changing-bag. The tank (as shown in the illustrations in the advertising literature), consists of a metal rack to hold the plates, a loading-block and the tank, with a cover provided with a light-trapped opening through which the developer is poured.

Method: The loading-block is attached to the rack and placed with the tank inside the changing-bag. The holders containing exposed plates are then put in and the bag is closed with glove fasteners. The operator's arms are inserted through sleeves, which make a tight joint around the coat-sleeves. The exposed plates are accurately slid into the grooves by means of the loading-block, which is detached, and the rack slid into the tank, the cover of which is clamped into position perfectly light-tight. Opening the bag, one now removes the tank in daylight and pours in the developer. The solution-trap being closed, one notes the time, then turns the tank end for end every three or four minutes until the required time is up. The trap is then opened and the spent developer poured out. Three or four changes of clean water wash out all traces of developer and the plates may be removed quickly, either in dim daylight or artificial light, to the fixing bath.

In the case of Ortho or Spectrum plates, the fixer should be poured into the tank. The operations are really simpler than they seem when described, and the results are uniformly good. The easy way to tell the right time to develop is by the use of the Watkins time-thermometer. This instrument indicates the number of minutes to develop against the column of mercury.

It may be used with any one of several different developers, directions being given on the thermometer.

Rodinal is the simplest developer, as it comes in one solution which has merely to be diluted for use. Other prepared developers are also available. Or one may mix one's own from the following formula:

Watkins' Thero Metol-Quinol

Solution 1.

Hydrochinon.....grs. 90
Metol.....grs. 30
Sodium sulphite, anhydrous....oz. 1
Water, enough to make.....ozs. 10

Solution 2.

Sodium carb., anhydrous. oz. 1, grs. 160
Water, enough to make.....ozs. 10

All plates are listed on the Watkins' speed-card (furnished with the Bee Meter or the time-thermometer), according to the speed at which they develop, in addition to the exposure-speed. For instance, the Sigma plate has an exposure-speed of 720, and a development-speed of MS (medium slow). The Vulcan is 400 M (medium). The Defender Nonhalation Ortho is 300 MQ (medium quick). The Cramer Spectrum is 180 MQ. The developer is diluted according to the speed of development of the plate used.

Example: To develop Spectrum plates, the MQ dilution is 1 3-4 drams, each, of solutions No. 1 and No. 2 made up to 10 ounces with water. Mix as many ounces as needed for the tank, immerse the thermometer for about a minute, and read off the time, say 16 minutes (as the instrument before me reads at the temperature of the room).

The Thermo System is a strictly scientific method of development. One trial only is necessary to check the results. If the negatives yields flat prints, use the developer one class more concentrated; if harsh prints, one class more diluted. The ease and certainty with which one can turn out perfect negatives is astonishing to the uninitiated. Correct exposure having been attained by the use of the Bee Meter for daylight work or the careful measuring of the powder for flashlights, development becomes automatic.

I cannot too strongly urge on those with no previous experience with photography the adoption of these methods. I have given them the most careful investigation. The Bee Meter is to be trusted as against my best judgment. The Thermo System will turn out as good negatives as one could ask. They eliminate worry, and leave one free to devote all one's attention to arranging and focusing the picture.

How to Make Prints

Glossy papers are preferable for all record work, although the "semi-mat" or "velour" surfaces are slightly easier to

A Demonstration in Sounding.
Taken in the surgical amphitheatre in one-half second at *f*:8

work, and practically as good, even, for reproduction. Those who have daylight time for printing will find Glossy White Seltona very simple to work. This paper is self-toning, that is, it contains gold and requires merely fixing in a weak "hypo" solution to which has been added a pinch of sodium bicarbonate. The tones range from brown to purple. The socalled gaslight papers are more convenient for most busy people, because they are handled by artificial light. As a rule, I use Argo Velour. This comes in two grades of contrast—carbon and portrait; the first, for negatives, lacking in contrast; the second for harsh ones. Defender Triple A Velour is good for very strong negatives. Cyko is

another very fine paper, and is made in three grades—contrast, normal, and soft.

Manipulation is very simple, namely, print, develop, rinse, fix, wash. Of course, the stronger the light, the shorter the necessary exposure; as, for example: a Welsbach mantle produces effects in 10 seconds that it would take 30 seconds for gas or 60 seconds for an oil-lamp to accomplish.

The exact time is determined by means of strips of the sensitive paper employed. There is a little trick about exposing, viz., to time the print so that it will develop dark enough and then stop. If insufficient time is given, there will be lack of detail in the whites; if more than required, the print will be too dark. By choosing from three grades of paper, one can fit any negative exactly and secure brilliancy or softness at will.

A correctly timed print goes on building up in the lighter parts after the shadows have stopped developing, and it is a sign that the paper is too contrasty for the negative if the high-lights do not show all the details visible in the negative when viewed by transmitted light.

Developers for gaslight papers are legion. Rodinal (or Citol) is the most convenient, and one of the best. Metol-quinol, however, is the most popular; but metol (monomethylparamidophenol sulphate) is poisonous to many people; many cases of metol dermatitis have been recorded in medical literature within the last decade, and the affection proves most resistant to treatment. I have found the following formulas not only superior but also quite nonpoisonous:

Duratol-Hydrochinon Developer

Hot water.....ozs. 40
Duratol.....grs. 15
Dissolve, and add, mixed together dry:
Sodium sulphite, anhydrous....oz. 1
Sodium carbonate, anhydrous.ozs. 1 1-2
When completely dissolved add
Hydrochinon.....grs. 60

This developer seldom requires the use of the bromide solution to keep the whites clear, while seeming to prevent friction-marks on glossy paper. It gives a beautiful blue-black color. Diluted with an equal volume of water, it makes a fine developer for plates. The bromide solution, if needed, should be added a few drops at a time, the most convenient strength being 10 percent. Should the developer described above deposit crystals in cold weather, a few ounces of wood-alcohol added to the solution will serve to keep it perfectly clear.

After development, the print is rinsed in clear water or in very dilute acetic acid—say 1-2 ounce of the glacial acid to one quart of water—and then removed to an acid fixing bath. Acid "hypo," in packages, can be purchased ready to dissolve, but I prefer the following trouble-proof formula:

Acid Fixing Bath

Sodium thiosulphate (hyposulphite, "hypo").....ozs. 8
Water.....ozs. 32
Sodium bisulphite lye.....ozs. 2

(or double the quantity of the powdered sodium bisulphite). In this bath the prints must remain for ten to fifteen minutes, keeping them moving for a few seconds after they are first put in.

Washing the prints must be thorough, in order to remove all traces of "hypo." The surest way is to do the washing with two trays, letting the prints remain for five minutes in a trayful of water and carrying them, one by one and draining well, to a fresh trayful. Twelve changes should suffice completely to eliminate all hyposulphite and to insure absolute permanence.

Unmounted prints—unless on double-weight paper, coated on the back with "photo-flat," to prevent curling—are a nuisance, so it is always advisable to mount prints on good heavy photographic card-mounts.

For further details about the photographic processes, I must refer the reader to the many excellent manuals distributed free by all manufacturers of plates and papers.

Let us now take up more in detail some of the different classes of cases one wishes to photograph and point out the special treatment necessary to insure first-class results.

(*To be continued.*)

An Embryologic Review of the Muellerian Ducts*

By W. A. NEWMAN DORLAND, A. M., M. D., Chicago, Illinois

Professor of Obstetrics in Bennett Medical College, the Medical Department of Loyola University; First Lieutenant in the Medical Reserve Corps, United States Army.

I. The Early Days of Embryonal Development

PROBABLY nothing better exemplifies the important place filled by the genitourinary system in the embryonic and postnatal economy than the remarkably early date of its development. Within twelve to fifteen days of fertilization of the ovum this system is well started on its developmental career.

First appear the primitive embryonic kidneys, or urinary excretory organs, and almost simultaneously the Muellerian ducts, which constitute the only persistent portion of the system from the initial days of embryogeny. These organs are so intimately associated in their origination and development that one can not be traced without constant reference to the others. A glance at Figures 1 to 4 will show the closeness of the relationship of these genital tubes of the female in their origin and development with that of the renal organs. Some knowledge, therefore, of the famous renal triad of embryology is necessary in this connection.

A few hours subsequent to ovular fertilization there appears upon the surface of the ovum a minute white spot known as the *embryonal area*. (Fig. 12.) At first round, it soon becomes oval, then pyriform, and in this area alone the embryonic body is developed. The amnion, yolk-sac, and other fetal accessories develop from the ovular substance surrounding the embry onal area.

At about the third or fourth day, in the median line of the long axis of the embryonal area, there appears a linear darkening, known as the *primitive streak*, containing a median furrow—the *primitive groove*. This streak results from a thickening of the ectoderm, or outer layer of cells, by a cellular proliferation from beneath.

Beneath the ectoderm are several layers of cells known as the *mesoderm* or *mesoblast*, and beneath these is an inner layer of cells known as the *entoderm* or *hypoblast*.

The mesoderm originates chiefly from the entoderm, but also in part from the ectoderm; and it is a distinct and independent layer everywhere, save at the middle line, where the three layers are so intimately related as practically to constitute one structure.

It is from the mesoderm that the genitourinary system develops at a very early period, as is explained in what follows:

II. The Wolffian Ridge

On either side close to the median line of the mesoderm lies a thick mass known as the *paraxial mesoderm, vertebral plate.* or *primitive segment plate.* The lateral portions adjacent to this are the *lateral plates.*

The three embryonal kidneys develop from the paraxial mesoderm in the following manner:

Just before the paraxial mesoderm undergoes segmentation, to form the somites, or protovertebræ, and when it is about to separate from the lateral plate on either side, there exists, for a short time, between the two an intervening band of tissue known as the *middle plate* or *intermediate cell-mass.* This middle plate thickens to produce the *Wolffian ridge*, which projects into the celom, or body-cavity.

III. The Embryonic Renal Triad

This ridge gives direct origin to the famous renal triad of the embryo:

a. The Pronephros, or Head-Kidney.—The elements of the extreme upper portion of the Wolffian ridge, which spring from the mesoderm, soon group themselves into cell-

* Read before the Surgical Society of Loyola University Medical Department, on April 17, 1912. Illustrations by Alfred de Roulet, M. D., Clinical Professor of Gynecology, Bennett Medical College.

cords, which at certain points unite with the mesothelial cells of the celom. Thus is formed the *pronephros*, or *head-kidney*. These cords soon become hollowed out,

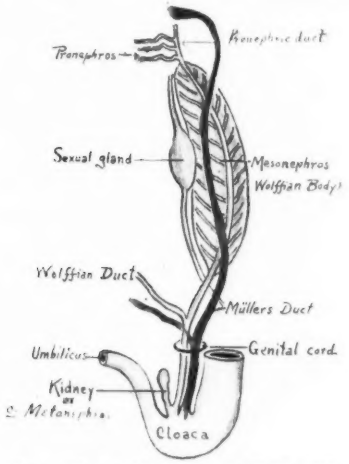


Fig. 1. The Renal Triad from the Wolffian Ridge

The pronephros constitutes the most primitive vertebrate type of an organ designed for the excretion of urine. It is functionally active in the larval stage of

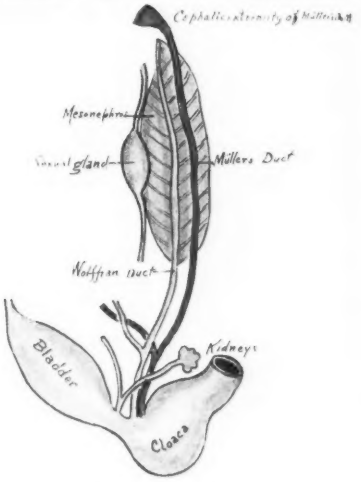


Fig. 2. Neutral Type

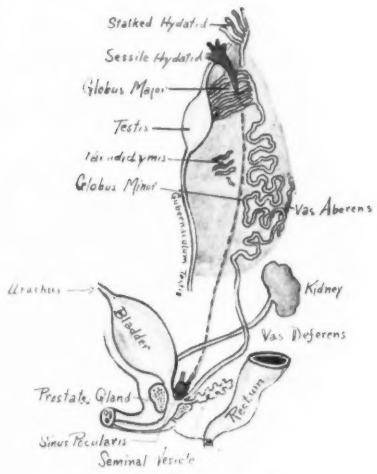


Fig. 3. Male Development.

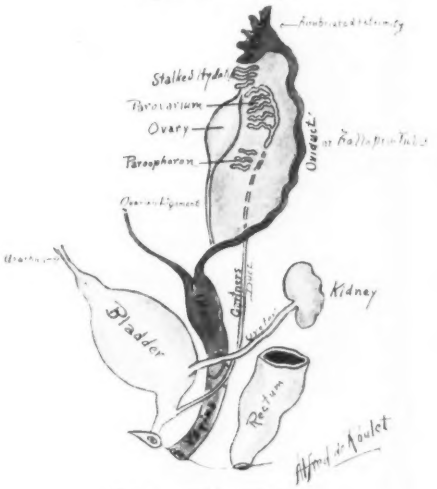


Fig. 4. Female Development.

DEVELOPMENT OF THE THREE EMBRYONIC KIDNEYS AND THE MUELLERIAN DUCTS.

and there results a long vertical tube known as the *pronephric*, or *segmental duct*, into which open, from the celom, a number of short transverse tubules—in man, two, in certain other vertebrates, four or six. The pronephric duct descends to terminate in the *cloaca*, or *urinogenital canal*—thereby demonstrating its excretory functions.

amphibians and in certain bony fishes; but it is very rudimentary in mammals, in which it is soon supplanted by the higher type of organ, the mesonephros.

b. The Mesonephros, or Wolffian Body.—At the same time the paraxial mesoderm segments to form the somites, in an embryo of fifteen days, the middle plate divides

into segments, known as *nephrotomes*, which, in mammals, are at first solid cell-cords, but which ultimately hollow out to form a series of transverse tubules, or canals. These tubules unite by their deeper ends with the pronephric duct, which now becomes known as the *mesonephric*, or *Wolffian, duct;* the entire structure constituting the *mesonephros*, or *Wolffian body*. This duct lies behind the parietal layer of the mesoderm, parallel with and lateral to the primitive vertebral column. It terminates below in the cloaca, while the upper part—the pronephric duct—atrophies and disappears. This is, with the exception of the anterior portion of the cloaca and the proximal part of the allantois, the earliest formed structure from which or in connection with which the parts of the adult urinogenital system arises.

The Wolffian body reaches its highest development in the human fetus by the seventh week and begins the atrophic process in the eighth week. By the fifth month it has largely disappeared. It is the urinary organ of adult *amphibians* and fishes.

c. The Metanephros, or Permanent Kidney.—During the short life of the fetal wolffian body there is developing at the extreme lower end of the Wolffian duct a structure which ultimately becomes what is known as the *metanephros* or *permanent kidney* of mammals. With this organ we have nothing to do at this time other than to state that it acquires its characteristic renal features by the end of the second month and reaches its permanent position in the body by the third month.

IV. The Muellerian Ducts

Shortly after the formation of the wolffian ducts there develop on the outer surface of either side of the Wolffian ridge—by a tubular invagination of the mesothelium of the celom, or, according to others, by a fission of the Wolffian duct—two other longitudinally disposed canals, which are designated as the *Muellerian ducts*.

In the female, these two ducts retain the opening into the celom, or body-cavity, at their cephalic extremities. This is an expanded funnel-shaped orifice—the embryonic fimbriated extremity of the duct. At their caudal extremities—unlike the Wolffian ducts, which remain distinct—they unite in the median line of the body, to form, with the Wolffian ducts, the *genital cord*, which opens into the lower part of the cloaca between the Wolffian ducts of the opposite sides. This ventral, or urinogenital, portion of the cloaca in the course of development becomes transformed into the bladder and the embryonic genital canal. In the male embryo, the Muellerian ducts early undergo an atrophic process.

From the genital cords are formed, in the female, the Fallopian tubes, the uterus, and the vagina. In the male, the hydatids of the testis are the rudimentary remains of their anterior portions, while the *utriculus prostaticus*, or rather the *sinus pocularis*, represents the lower, fused, portions lying in the genital cord.

The *hydatids of the testis* (also called the *appendices of the epididymis and testis*, and *the hydatids of Morgagni*) are minute sessile or pedunculated bodies and which are frequently found attached to the globus major or to the upper end of the testis. They represent the free end of Mueller's duct, and, in the female, lie near the fimbriated extremity of the oviduct (Fig. 13).

Fusion of the Muellerian ducts in the genital cord, to form the uterus and vagina, begins in the third month of embryonic life, and is completed by four and a half months, with the absorption of the resulting septum. Failure of one of the Muellerian ducts to undergo its normal process of development results in the anomaly known as the unicorn uterus (Fig. 10); while imperfections in the process of fusion of the two normally developed ducts result in the various forms of double uterus and vagina (Figs. 5-11).

As Clarke, of England, has indicated, it is interesting to note at what a very early period of embryonic development the general shape of the uterus corresponds to that of the adult type. Thus, from an early period the anterior surface is flatter than the posterior, the posterior wall broader than the anterior, the posterior vaginal cul-de-sac deeper than the anterior, and the

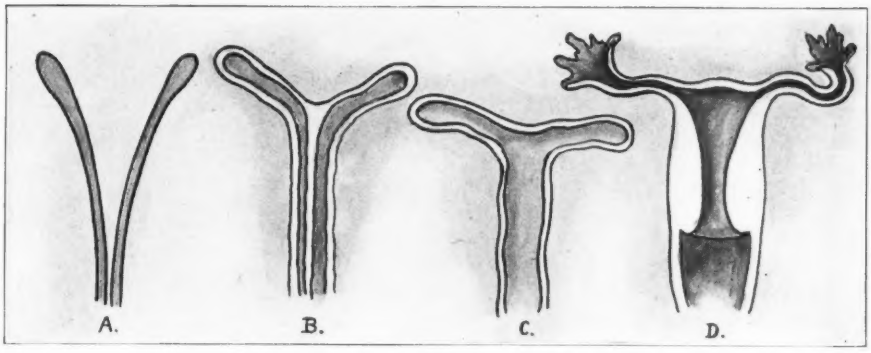


Fig. 5 Development of Vagina, Uterus, and Tubes from the Müller's Ducts.

Fig. 6 Norma Uterus.

Fig. 7. Bicornate Uterus.

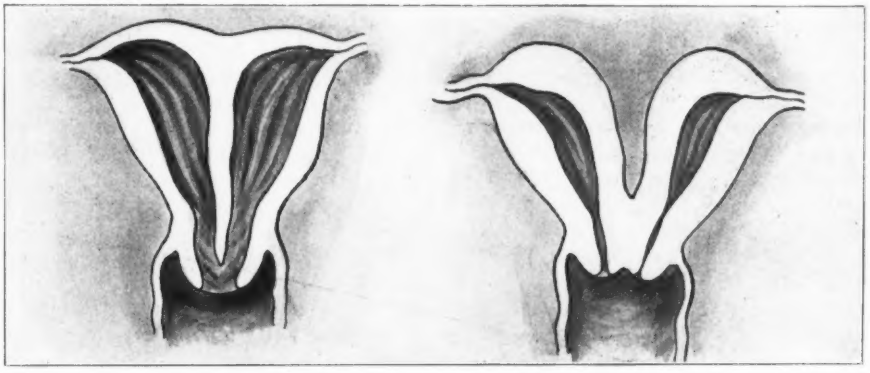


Fig. 8. Septate Uterus.

Fig. 9. Double Uterus.

anterior wall of the cervix broader than the posterior.

V. Musculature and Vascularization of Uterus

Embryologically, the most important structures of the Muellerian ducts are the muscular tissue and the blood-vessels. Until recently our knowledge of these structures has been more or less imperfect, and much credit is due to Clarke, the English embryologist and gynecologist, for his labors in this direction. I have condensed here, in brief form, the most important results of his work.

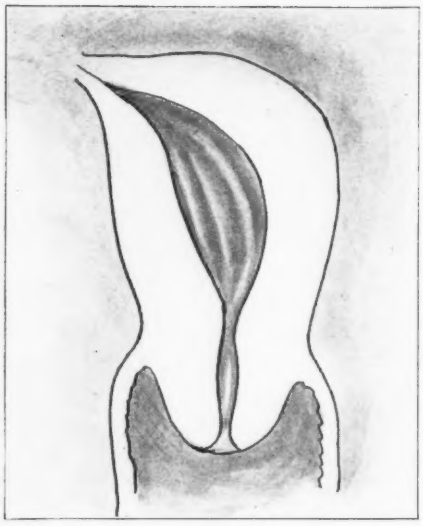


Fig. 10. Unicorn Uterus.

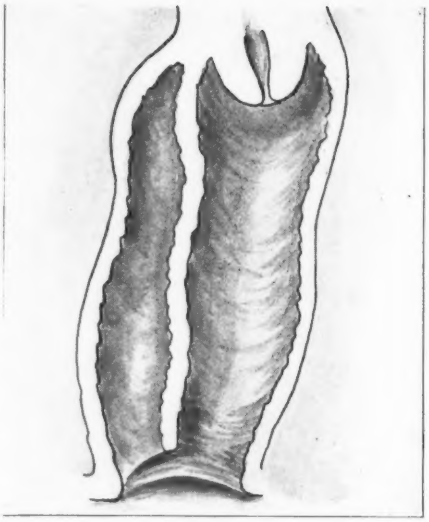


Fig. 11. Double Vagina.

Thus Clarke notes that as early as the *third month* of embryonic life small spaces, a few of which appear to contain blood-corpuscles, may be seen in sections of the uterus. A few broader connective-tissue strands with a large preponderance of delicate connective tissue are found in the mesometrium, but there is present less than 35 percent of muscle-tissue.

By *three and a half months*, larger blood-spaces having a delicate fibrous-tissue lining are present, some of them containing blood. Fine arteries appear, as if growing inwards from the broad ligaments. These arteries lie evenly in the tissue and do not curl.

By *five months*, small curling arteries exist, having an endothelial lining, a muscular middle coat, and an outer fibrous coat. They appear to spring from the broad ligament on either side, and run in trabeculæ which enclose venous spaces. The arteries seem, at places, to invade the venous spaces and their branches extend to the periphery of the uterus. By the completion of the *fifth month*, venous spaces lined with delicate epithelium having an external fibrous-tissue layer are found throughout the uterine muscle.

By *seven months*, venous spaces abound throughout the uterus, but the arteries still are largely in the vicinity of the broad ligaments. In the cervix, indications appear of a process, termed *condensation*, by which the venous spaces of the mesometrium are invaginated by the arteries.

At *eight months*, large venous spaces are noted, some containing a little blood; and into a few of them, especially in the cervix, small arteries have pushed their way. In these cases the arterial walls show thicker muscular layers, while the fibrous tissue of their outer coats is becoming more intricate in its arrangement. The arteries now extend to the endometrium.

By the time of the completion of intra-uterine life, the arterial invasion has extended to the endometrium, in the cells of which a few small arteries exist, while exceedingly fine straight capillaries are seen running in the fibrous tissue between the glands. The endometrium also contains small venous spaces filled with blood, and the mesometrium much larger spaces, the outer of which contain blood. In some of these the process of condensation in its earlier stage may be seen, both in the body and the cervix. The inner venous spaces

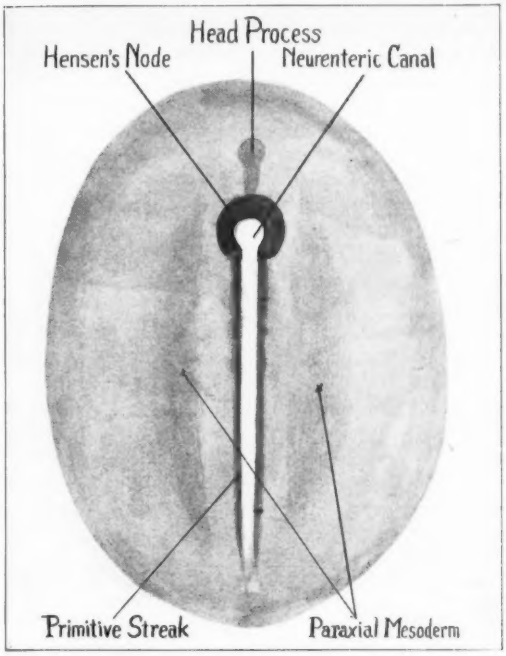


Fig. 12. The Development of the Embryonal Area.

now have only a thin connective-tissue coat lined by endothelium.

After the arteries have attained their position in the uterus a very marked growth of their muscular tissue occurs. This increase has been estimated at 28.57 percent of its bulk during the last five and one-half months of intrauterine life.

The question of the origin of the uterine blood-vessels is an interesting one. Two views are advanced. First, that of His, as quoted by Quain, holding that they grow from the vascular area into the embryo by a budding of the endothelial walls of the vessels first laid down there. Secondly, Quain's view is that they arise *in situ*. Clarke believes that, while the venous spaces arise *in situ*, the arteries grow into the uterus from the broad ligaments. The embryonic connective tissue of the mesoderm, from which the several forms of connective tissue and the unstriped muscular tissue are developed, is regarded as the possible source of the tissues of the blood-vessels. (Quain.)

During early infantile life the muscle-tissue of the uterus increases from 45 percent at birth to 52 percent at the time of the appearance of the permanent teeth; that is, an increase of 15.55 percent of its bulk. In the period of youth—up to puberty—the muscle-tissue advances from 52 percent to 56 percent; that is, an increase of 19.2 percent of its bulk. When menstruation normally appears for the first time the muscular tissue in the uterus is estimated at 62 percent; and, if 21 years be taken to represent the age of maturity, there is a further increase in the uterine muscle, during this period of adolescence, of 3 percent, or of 4.83 percent of its bulk.

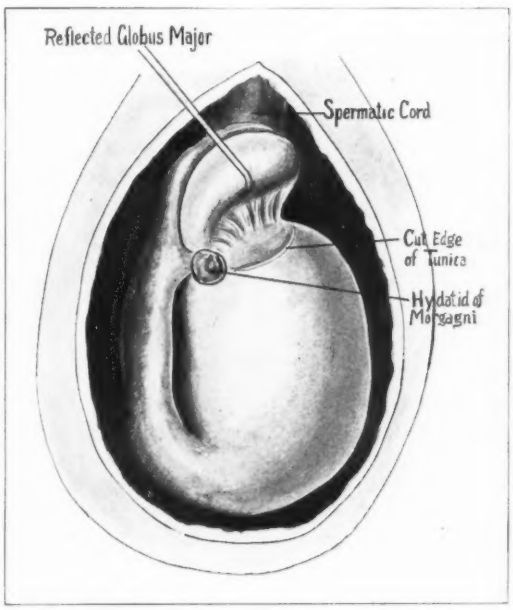


Fig. 13. Diagram showing the Testes, with Position of Morgagni's Hydatid—the Vestige of the Muellerian Duct.

The conclusion deduced by Clarke is, that the development of the uterine muscle during fetal and infantile life takes place in a definite relation to the vascular structures. In other words, it is in the development of muscular tissue in the trabeculæ of the meshwork of cavernous structures and the muscular growth in the walls of the arteries that the growth of the mesometrium takes place. The venous spaces in the cavernous tissue of the uterus are not obliterated, but remain as potential rather than actual spaces. They have a delicate endothelial lining, and external to this a fibrous connective-tissue layer. They are concerned in the erection of the uterus and in the formation of the maternal blood-sinuses during pregnancy.

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No Marriage License Without a Physician's Certificate of Freedom From Venereal and Mental Disease

By WILLIAM J. ROBINSON, M. D., New York City

Editor of The Critic and Guide, and of The American Journal of Urology; Author of "Sexual Problems of Today", and of "Never-Told Tales;" President of the American Society of Medical Sociology

WE are living in an interesting age. It may not be a great age, it may not be fruitful of grand new ideas, but it is an interesting lively age. Everything is in a ferment. Everything is being questioned. Nothing is taken for granted. And while much of what is passing for new is crude, silly, and reactionary; while much of what is passing for original and virile is really old and moldy and decaying; still, out of it all will come something beautiful, something grand and wonderful. And, needless to say, among the most wonderful phenomena of the present age is the spirit of unrest among the female members of the human race.

Whether or not woman suffrage will prove the panacea that its adherents believe it will, or whether its universal granting will put progress back half a century, as others believe it will—one thing is sure; woman refuses to remain the doll, the child, the slave that man wanted to make of her; woman is awake—if not fully awake, she is opening her eyes, anyway. And she demands the right to dispose of her body as of her own and not as her husband's property. She wants to know what is to become of her body when she enters the bonds of holy matrimony, for she has heard that not all is well in that sacred kingdom, in that ardently desired-for paradise. She has heard some of her women friends cursing instead of blessing the day when they changed their maiden name for that of their future husband. And they are beginning to ask for particulars, for details. And well it is that they are doing so.

For too many years, for too many centuries woman has been outraged, infected, sickened, invalided, incapacitated for life and often driven to an early grave by the man who promised to love, cherish, and protect her. Very often he did this in sheer ignorance—he didn't think he could infect anybody, he thought he was perfectly cured, or he forgot all about having had a disease—"it was so long ago." Sometimes he did it with perfect knowledge of the possible consequences and in spite of the distinct warning of the physician. He married in the dangerous, infectious stage, because he wanted the woman's money, or it was inconvenient to delay the wedding,

* Address delivered before the Harlem Liberal Alliance, New York, March 1, 1912.

or for some other real or pretended reason. But whether infected through the husband's ignorance, through his carelessness or through maliciousness, the disastrous result was always the same; and woman is getting "foolish" enough to refuse to continue to be a victim of man's ignorance and brutality. She begins to object to being infected a day or a week or a month after the wedding. She is beginning to ask—or we are beginning to ask for her, for the liberation of the slave never came through the slaves themselves, but through the fighters for liberty, through the humanitarians—some guarantee that the marriage-bed will not soon be converted into an invalid-bed, that the wedding march will not be a prelude to an early funeral march.

Before going further, let me give you the histories of a few cases illustrating the infection of brides by their husbands:

Case 1. Twenty-two years old. Married three years and two months. Exactly one month after the wedding—she remembers the happy day—she began to feel pain and burning in the vagina, pain on urination, and other symptoms. She has been treating with different doctors ever since. She will never get well without an operation, because both tubes are swollen, distended, and full of pus. And if she has the tubes removed, she will of course never have any children. It may also be necessary to remove her ovaries.

Case 2. Age nineteen. Married two months. She must have become infected on the very wedding night, for ten days after the wedding ceremony all the symptoms of an acute gonorrhea were in full blast. Fortunately the husband was well-to-do, she could afford almost daily treatment at the office, the home part of the treatment was carried out by a competent trained nurse, and in three months she was well. But it cost her a lot of pain and suffering, and a pile of money; the poor can afford the former, but not the latter. How soon she will be able to have a child is also a question.

Case 3. Age twenty-eight. Married five years. Began to ail about two weeks after marriage and has been an invalid ever since. All that time she has had no treatment. For the husband happens to be a cruel, contemptible brute. He told her that she did not need any treatment, it was natural for a woman to be sick after marriage, and it was no use wasting money on doctors. But finally she became so haggard-looking, got so thin and feeble that her people insisted on her consulting a doctor, and a friend advised her to see me. She came with her husband. Of course it did not take me long to find out what the trouble was.

I asked for a private talk with the man, who at first strenuously denied ever having had any venereal disease; but when I told him that it was no use lying, that I could find out in a minute by examining his urine or prostatic secretion whether he had or not, he confessed that he had had gonorrhea, but he was sure that he had been cured when he married. I examined his urine and found it full of shreds and gonococci. When I told him that it was a crime to ruin a human being like that, without even trying to cure her, his excuse was that he was afraid to send her to doctors; he was afraid they would tell her what the disease was, and as his and her parents were strict Catholics, he feared there might be trouble. And so, for the fear of a little unpleasantness, he risked and ruined the life of the woman whom he promised to cherish and protect. For she will never again be a healthy, normal human being. Her entire generative organs—the uterus, the ovaries, and the fallopian tubes—must come out, if an attempt is to be made to save her life. And she may not be able to endure an operation—so weak, so anemic, so miserable is she.

And strange as it may seem, almost up to within a month before her coming to me she had no suspicion that her husband had anything to do with her trouble. So she told me, and I fully believe her. I know of instances where the woman ailed and suffered for ten, fifteen, twenty years, and some even went to their graves without suspecting that their lovely husbands were in any way responsible for their horrible condition. And she might still be unaware of the cause of her condition if a friend of hers who had heard me lecture and read some of my books and editorials had not given her a hint.

Her suspicion soon grew to a certainty; and I do not believe that her feeling for her husband now is one of pure, unalloyed love.

It is interesting to spend a minute or two in a consideration of the feelings of the infected wives toward their husbands. I used to be surprised to notice the good-natured, forgiving attitude, toward their husbands, of wives who had undergone years of suffering because of these husbands. But I no longer am surprised—for I see it so often. Not a grudge, not a resentment. But this only in cases where the husband was kind and comradely to the wife, made a clean breast of things, and did everything within his financial power to cure her. Such was true in the cases number one and two. The husband in case number three was just the opposite—he was a low, contemptible brute—of whom we have not a few—and his wife, on finding out the true state of affairs, did not hesitate long in making him know her true feelings.

Case 4. Age twenty-eight. Married four years. Three months ago she gave birth to a child, after a very difficult labor. The child was afflicted with ophthalmia neonatorum and is now completely blind in one eye. Only after the greatest care and attention was the other eye saved. Since giving birth to the child, she has been a very sick woman, running a temperature of 101° to 103° F., and losing flesh rapidly. She has had no intercourse since. Examination showed the presence of an abundant ichorous discharge, containing numerous gonococci. There can hardly be any doubt that she became infected soon after marriage, but the disease was of a mild, dormant character, as it often is in women. However, as is, also, often the case, pregnancy and labor stirred up the activity of the gonococci, the numerous raw surfaces offered a favorable soil for the growth of the germs, and the woman got a severe acute infection. From local, the infection soon became systemic, and she died of gonorrheal endocarditis.

Case 5. Age thirty-six. Married fourteen years. Has had nine miscarriages and three children, one of whom died within a few minutes and the other two within three days after birth. The woman is very anxious to have a child, as so many good women are; and although the husband knows that he was strongly syphilitic and that he infected her, he did not intimate to her that there was anything the matter with her, nor suggested that she needed treatment. The woman was considerably run down, but under proper treatment she gained rapidly in color, flesh, and strength. She asked if she could soon have a living baby. I told her, yes. *But*—I told her it would be best for her not to have any babies just now, because the child might be born sickly, deformed, or die in early infancy. Of course, she would rather die than bring into the world a sickly, deformed child, and she will take good care that she does not do it. After two or three years of constant, honest treatment, if all the symptoms and signs are negative, she might run the chance of giving birth to a child. What has that woman's life been but one continuous round of misery, suffering and disappointment? All because the husband married her when he was in a florid, infectious stage of syphilis, and because he knew that infecting and ruining the life of his wife carried with it no penalty for himself.

Case 6. Age thirty. Married nine years. Presents a horrible sight. Became infected, apparently, within the first month of her married life, for she remembers she had a severe rash all over her body about two months after she was married. A homeopathic doctor was then consulted and he told her it was due to measles. Now her nose is deeply sunken, she has an ulcerating gumma on the left collar-bone, an immense ulcer on the left leg—occupying almost two-thirds of the circumference of the limb—and a smaller ulcer on the right leg. The soft palate is ulcerated through, and her voice is, of course, extremely unpleasant. She has had several miscarriages, but unfortunately she gave birth to two living children also. Both of them are puny and sickly; one has a bad cataract on one eye, and the other is already showing signs of epileptic fits. Both are mentally below par, and if they are not fortunate enough to die at an early age, they will

grow up to swell the army of deviates, defectives, and degenerates. Perhaps they will belong to the class of the criminally insane and will end their lives in prison.

Case 7. Pretty, charming, intellectual Mrs. X. Thirty-three years of age. Married five years. She married beneath herself socially and intellectually. But she was getting on in years, she became possessed of that unreasonable fear of remaining an old maid, and—the chief reason—she had a strong maternal instinct and was "just crazy" to have a child.

People do not suspect how strong this instinct is in many women. I did not suspect it myself until I saw it in my own practice; and many men would be painfully surprised if they knew the real reason why their wives married them. Many times, I repeat, it is simply the irresistible desire to become a mother. And as they see the years passing, passing, they become seized with a subconscious fear of never being a mother; and then they accept the first "reasonable" offer, a man who may be very far removed from their ideal. And as a rule such women are rather cool to their husbands and pour out all their love and affection upon their children; these fill out all their life.

As I said, Mrs. X married Mr. X principally because she wanted to be a mother. Imagine her disappointment, then her chagrin, then her despair, when year after year passed, and no sign of a child. Without her husband's knowledge, she had herself examined and was pronounced healthy in every respect. She disliked to broach the subject, but so strong was her desire for a child that she overcame her reluctance and spoke to her husband, who poohpoohed the matter; but she insisted, and he came to me for an examination. She came with him.

A most painstaking examination of his urine and prostatic secretion showed that he was free from gonorrhea; nor were there any signs of syphilis; in fact he was in excellent health. A close palpation of the testicles, however, revealed the presence of two small nodules—often the only telltale signs of a former gonorrhea—one on each epididymis. To the question, whether he ever had had gonorrhea, he answered in the affirmative, while further questioning also brought back to his memory the fact that he had had a bilateral epididymis. It then became clear why Mrs. X never became pregnant. To her anxious question, whether she could have a child, I was obliged to answer that it was not likely; that at any rate it would require long, long treatment—massaging the nodules with resorbent ointment, internal treatment, and so forth. And here she broke out in sobs and her tears came down in torrents. She tried to restrain herself, but could not. It was a pitiful picture. One could see that she felt that she was cheated—cheated of her hopes, and ambition, and expectations.

Case 8. This case is very similar to the preceding one, so far as the wife is concerned. For ten years she was praying for a child, but her prayers were not answered. She was examined a number of times and found all right. The husband did not consider it necessary to have himself examined, but at last she prevailed upon him. He denied ever having had venereal disease and on examination I found that he was telling the truth. But I also found that he had but one testicle (was a monorchid) and that his "semen" was entirely free from spermatozoa. And here I was obliged to tell them that there was not any hope of their ever having children, that treatment would be useless and a waste of money. The woman did not break out in tears and sobs, but her face was a study worthy of the brush of a great painter.

Case 9. Aged thirty-four. Married seven years. Sallow, dingy complexion, anemic, poor appetite. Husband complains that she has been getting very cranky and irritable of late; almost impossible to get along with her. As a girl and in the first years of married life she was of a kind and amiable disposition and very submissive. A diplomatic questioning and examination of each spouse apart elicited the sad fact that the husband is almost completely impotent. He was suffering with frequent night emissions before marriage, and it was as a cure for this condition that a quack doctor advised him to get married. And he did follow this stupid,

criminal advice and got married without undergoing any treatment. And his condition has been getting worse and worse, since marriage, so that now both libido and potentia are almost completely absent. During her entire married life the wife has not had sexual satisfaction once. The first two or three years she did not mind it, as she had practically no desire. But with the awakening of her sexual instinct she has been suffering quite pronouncedly, and lately, she told me, she has begun to feel as if she could not stand it any longer.

Case 10. Age twenty-nine. Married five years. This case is similar to the preceding one. The wife came to find out whether there was any reason why she could not have any children. An examination disclosed the astounding fact that she was still a virgin with intact hymen. Further examination disclosed the reason why: the husband was completely impotent; while libido was present, and the semen proved normal, *potentia coeundi* was entirely absent.

Case 11. The woman had some misgivings on accepting the man, as she feared that her money and her position might be some factors in his ardent wooing. But he was so nice, so strong, and so gentlemanly that she finally married him. Even before the honeymoon was over she began to perceive that he was not a paragon of virtue. The chief trouble was with his love for drink. He restrained himself at first, but later on he gave unrestrained license to his appetite, and then he would break out in uncontrollable fits of passion. In short, she very soon saw that she had to deal with a confirmed dipsomaniac. And now her only anxiety is not to have any children from a drunkard father. But she did become pregnant, and she is bearing the child in anguish, in fear that it will be born abnormal or that it will grow up a drunkard. She was determined to get rid of the fruit of her womb; whether she changed her mind or whether she succeeded in her determination, I don't know. But her life is ruined.

Case 12. When the woman married she had no idea that there was anything wrong with her husband. Several months after marriage she discovered that he was suffering from mild epileptic attacks. He has had those attacks since childhood, but he did not consider it necessary to disclose the fact to her. She has had three children with him. One, a girl, seems to be quite normal; of the other two, who are boys, one is subject to epileptic fits, the other is a high-grade imbecile. He shows signs of moral depravity, is cruel to whomever or whatever he can be (to animals particularly), and when he grows up he will probably commit one or more crimes before he is made innocuous. The feelings of that mother in general, and her feelings for her husband, can be better imagined than described. And still she is unable to free herself from his importunities, she cannot leave him, for various reasons, and but for the fact that she at last learned the use of the proper means of preventing conception she would be bringing into the world more epileptics, more imbeciles, to swell the vast overflowing ocean of misery, wretchedness, and crime in which already we are wading knee-deep.

Case 13. Mrs. N. N. No more pitiable tale could be told. A thousand times better had she never been born or had she died in infancy or had she committed suicide. For she is now a paralytic imbecile, confined to a state institution for the insane, a torment to herself and all those about her, her relatives praying for her death as a deliverance from her suffering. And she was a nice, bright, lively woman. But the husband infected her with syphilis, she received no treatment until the symptoms became so prominent that they could not be overlooked. The disease was in a virulent form, and now she is the victim of general paralysis of the insane, and it may be two or three years before death the deliverer will come to her and end her sufferings. The husband has escaped any brain involvement so far; probably because he took energetic treatment. He may still become a victim to this, the most terrible, sequel of syphilis. And I do not know whether it would not be poetic justice if he did. Not because he infected his wife, but because, on account of his miserable cowardice and selfishness, he did

not see to it that she got proper treatment, although he knew full well the gravity of the disease.

Case 14. This is a case I saw but this afternoon. The couple were married just eight days ago, and last night she has already shown signs of an acute gonorrhea. Luckily they have taken the matter in hand at once; the husband did not try to conceal from the wife the true cause of her trouble, and he is willing to spend his last cent to get her well as quickly as possible.

This case is important as showing the damage and dastardliness of the quacks, and the share in this dastardly work of our radical newspapers. For the man in this case was treated by one of the advertising quacks for two years, and that quack assured him that he was all right, that he was perfectly cured, that there was not any danger in his getting married. And the reason the man went to the quack was, because he saw his advertisement in his Socialist daily newspaper, and he was unsophisticated enough to believe that a Socialist newspaper would not print any false and fraudulent advertisements. And so this poor woman has the Socialist newspaper to thank for her disease.

All this misery, multiplied by a hundred thousand, could be eliminated in a very simple manner: by demanding from each male applicant for a marriage license a physician's certificate of freedom from venereal or mental disease. I know that there would be a great deal of opposition to the enactment of such a law, but with public opinion thoroughly awakened and in favor of it, few legislators would dare publicly to oppose it.

I know the objections that are likely to be raised. One is, that the candidates would go to unscrupulous quacks, who for a few dollars would give them the desired certificate even when they were in the infectious stage. But this can easily be obviated by demanding that the certificate be signed by some reputable physician. No advertising quack is considered a reputable physician, and no reputable physician would risk his reputation by giving a false certificate.

Another objection is, that the candidates could go to another state and get married. If all the states had such laws, then, of course, the candidates would have nowhere to go; but even before all the states pass such laws this can easily be obviated by declaring marriage between citizens of a certain state, who in order to escape the requirements of their state law went into another state to get married, null and void. This is actually done in Indiana. Residents of the State of Indiana who go into another commonwealth to get married, and return to Indiana, are subject to penalties, and have their marriage declared null and void.

The mere presence of such a law on the statute books would have a wonderful educational effect. The young men, knowing that before they could hope to get married they must present a clean bill of health, would be exceedingly careful in their sexual relations, would use much greater precautions to avoid venereal infection; or, having had the mishap to become infected, they would at once seek the most competent and most energetic treatment. But even without passing such a law, if merely the idea became common, many young men would consider it their duty and their pleasure to have themselves examined before entering matrimony and bring a certificate of freedom from any transmissible diseases to their prospective brides. It is being done now among certain people, but the number is still too small to have any appreciable effect on the postmarital incidence of venereal disease.

I might further say, that the custom now prevailing in the better families of having the prospective bridegroom take out a life insurance policy for a considerable amount of money is done not only for the purpose of protecting the young wife in case of the husband's premature death but also for the purpose of ascertaining his physical condition. The bridegroom's prospective parents-in-law do not say brutally that that is the purpose, but the bridegroom understands it. Unfortunately the life insurance examination cannot generally determine the presence or absence of gonorrhea or syphilis, except when those diseases are present in too evident a condition—for the life insurance examiner does not express the prostate

gland to examine the prostatic secretion, nor does he perform the Wassermann reaction to ascertain the presence or absence of syphilis.

I stated that a certificate of freedom from venereal disease should be demanded from every male applicant. Some might ask, Why not also from every female applicant? and those who are for equality of the sexes cannot see why the women should be given privileges which the men do not possess. Theoretically there is no reason why it should not be so, but we live in a practical world and every reform advocated must have a sane, rational foundation—and the reason why I say that it is not necessary to demand a certificate of freedom from venereal disease from every female applicant is because the proportion of infected men to infected women (speaking of course, of the respectable classes) is as one hundred to one. The difference may even be greater, and it seems to me absurd to subject a thousand women to vaginal examinations in order to find, perhaps, one who is infected.

Of course, should our women become as emanicpated as the men, and should they adopt the same sexual standard as the men, and should venereal disease among our unmarried women become as common as it now is among the men, then they should be required to furnish a certificate just as well as the men. But what I said applies only to the certificate of freedom from venereal disease. As concerns mental diseases, such as insanity, epilepsy, and the like, the requirement should now apply to women no less than to men.

One section I would incorporate in this law (such a provision exists in Norway, and there is no reason why it should not exist here), namely, that knowingly infecting a person with venereal disease should be considered and punished as a felony. It should not be necessary to prove malice; the mere fact that the person knew that he or she had the disease and concealed the fact from the partner should be sufficient for a conviction, and, of course, for rendering any marriage contracted under these circumstances null and void.

It might be objected that many mental diseases, or mental taints rather, can not be detected by an examination, and therefore many people in whose families there is feeblemindedness, insanity, and epilepsy would still be married. This possibility, however, would be obviated by the requirement that all candidates for marriage would have to make a sworn statement that there has been no mental disease in their respective immediate ancestry. Naturally, swearing falsely would subject the parties to the usual penalties of perjury.

How about people who, knowing the exact condition of their partners, decide to disregard all risks and wish to marry nevertheless? Would I or would I not permit them to marry? This brings up an entirely different question. Provided there is full knowledge on both sides, of the true state of affairs, I should permit them to marry—but with one condition: that under no circumstances must they bring forth children. So long as there are no children, the state has no right to interfere with the private affairs of two individuals. This brings us to the subject of teaching the people the means of the prevention of conception, but this is another story—quite another story, a story for another evening.

Calcium Sulphide as an Antizymotic

Some Practical Applications of a Neglected Remedy

By W. C. WOLVERTON, M. D., Fort Dodge, Iowa

THE therapeutic applications of calcium sulphide certainly are many and varied. In general, we may say that this drug is a systemic antiseptic; but it is also a good expectorant in certain conditions; and it is a valuable prophylactic agent in infectious diseases, notably scarlet-fever, this prophylactic effect probably being due to its stimulating effect upon the immunizing mechanism of the body as well as to its deleterious action upon the invading bacteria themselves.

Use of Calcium Sulphide Against Boils

Probably the best-known therapeutic indication for calcium sulphide is in the treatment of localized infections due to pus cocci, e. g., furunculosis. Before the advent of vaccine-therapy, the writer put his faith in calcium sulphide; and many were the crops of boils which "took French leave" when the little "rotten-egg pills" were exhibited, being given at short intervals, to saturation.

It is true that I now use stock staphylococcus vaccines in such cases, but only as an auxiliary; I have not laid aside the trusty old weapon for the new. Time after time have I given calcium sulphide to a patient afflicted with a "crop of boils," and as a result seen well-advanced furuncles hurried on to a "head," the pus quickly becoming thin and watery; others, in which suppuration seemed imminent, simply faded away, without any pus formation whatsoever. I have seen this happen many times; and it has likewise been the experience of many of my fraternal acquaintances.

The whole trick is in *giving the remedy to saturation*. Within anything like reasonable limits as to dosage, calcium sulphide is innocuous; enormous amounts have been given without undesirable effect. The trouble is that too many men believe their patients saturated when hydrogen sulphide can be smelled in gaseous eructations from the stomach; but the real proof of saturation is the sulphureted odor on the patient's breath. Small doses of 1-6, 1-3 or 1-2 grain (0.010, 0.020, 0.032 Gm.), according to age and body-weight, repeated every half-hour to saturation; this dosage, and *a reliable preparation of the drug*, will give results.

Calcium Sulphide in Scarlet-Fever and Smallpox

There is a man, a medical missionary in Turkey (Dr. C. D. Ussher), who has had wonderful results from the use of calcium sulphide in the prophylaxis and treatment of scarlet-fever. [See CLINICAL MEDICINE, 1909, p. 1203.—ED.] My own experience along this particular line has been somewhat limited; but I recall an instance in which one child in a large family developed a severe case of scarlet-fever. The father was badly worried lest the other five or six children should also contract the disease, and asked me to try to ward this off. The children, accordingly, were saturated with calcium sulphide, and no other case developed in that family, although some of the children had slept with the sick one before the nature of the malady was recognized.

From a four-years' personal experience as health officer in a North Dakota county of some 1800 square miles, I believe that calcium sulphide, pushed to saturation as soon as possible after the diagnosis is made, exerts a beneficial influence upon the course of smallpox, in that it limits the secondary, pyogenic infection, and so prevents or ameliorates the "fever of suppuration."

A Case of Cellulitis

Some three years ago, while located at Linton, North Dakota, I was called to a farm, fifteen miles away, to consult with another doctor. This doctor was, and still is, unlicensed, although he claims to be a graduate of the University of Utrecht, Holland. The patient was also a Hollander, a boy of 16, who had sustained an accidental

hatchet-wound over the left patella, about a week before. His mother had bandaged the wound, and nothing more was thought about it until considerable swelling and redness set in, and which began to extend up the thigh. Then the patient consulted the doctor referred to, and the latter, to use his own words, "gave him a little aconite for the fever." The wound he disregarded altogether. Soon the boy's temperature was soaring; he had chills, headache, malaise, rapid and feeble pulse, in fact all the signs of a profound sepsis. The medical attendant, after examining the limb, thought he detected a "soft spot," as he said, a little above and external to the patella, and ran a knife into it. But he struck no pus; only a dirty, grayish serum exuded. This frightened him, and he made a prognosis of a probable fatal outcome. Then it was that the family insisted upon my being called.

I found a cellulitis involving the entire thigh, save only the posterior aspect; the red, boggy, infiltrated area also extended somewhat below the knee, and up onto the lower abdominal wall as high as the crest of the ilium.

The attendant thought he had found another "soft spot" on the outer side of the thigh, and cut into it. Turning to me he said, "You see, Doctor, dere iss nossing, no pus," and quit the job.

The boy's heart, from the septicemia and the aconite combined, was so nearly "all in" that I was afraid of a general anesthetic; but it was a case for heroic measures, so I persuaded my confrère to administer just enough anesthetic to render the boy oblivious to pain. Then I made six openings through the skin into the subcutaneous cellular tissue, three openings at the upper, and three at the lower part of the thigh; and, using a long uterine dressing-forceps, drew three twisted silkworm-gut drains through and through. That gave three long drains, one on the anterior and one on each lateral aspect of the thigh, in the long axis of the latter. Then the original wound over the knee was opened, cleared of pus, and swabbed out with tincture of iodine; and a wet dressing was applied to the entire affected part.

The postoperative treatment consisted in giving strychnine arsenate, to support the flagging heart; brandy, to please the family; highly nutritious liquid food; an iron tonic; and last, but far from least, *calcium sulphide to saturation*. The boy recovered, and that in a surprisingly short time; but I am fully persuaded that drainage and strychnine alone would never have effected this happy result, without the simultaneous use of the calcium sulphide. *En passant*, I might remark that coverglass-spreads, made from the lymph which exuded from the drainage openings at the time of operation, showed a pure culture of streptococcus pyogenes.

The Sulphide Was Used in Meningitis—Also for Multiple Abscesses

At Ft. Yates, North Dakota, I once saw, in consultation with the Government doctor in the Indian Service, an apparently hopeless case of cerebrospinal meningitis. I suggested to the attending physician that calcium sulphide could do no harm, and might prove of value. He being willing, we began the administration of the drug in doses of 1-2 grain every hour. About the time saturation was accomplished, improvement in the boy's general condition began, and he ultimately recovered.

Recently I had a somewhat similar experience. A girl of 12 years had typhoid fever, and during the course of the disease developed a cystitis, and later a pyelitis; microscopic examination of the urinary pus showed streptococci and staphylococci, in addition to the typhoid bacilli. About this time, the patient had an outbreak of some thirty abscesses (which, because of their deep location, I am sure were of pyemic origin) in the buttocks, over the angle of the scapula, and in the left mammary gland. I achieved no results from vaccine-therapy in this particular case.

Then, one day, the patient became delirious, although the typhoid fever itself was a thing of the past. She was so sensitive that she screamed when touched or when the streetcars passed the house; her legs and thighs were flexed, being drawn up tight against the body; Kernig's sign was present; there were muscular twitchings

and nystagmus; great sensitiveness to light; the head was slightly retracted. Under calcium sulphide, the meningeal symptoms disappeared in three or four days and the patient recovered. The pyuria cleared up under the administration of arbutin, in 1-4-grain dosage, every three hours. This patient could not tolerate hexamethylenamine, even in very small dosage, as it produced hematuria.

Whooping-Cough Is an Indication

Whooping-cough is another indication for the use of calcium sulphide. Early saturation with the remedy has, in the hands of many competent observers, shortened the course and ameliorated the severity of the paroxysms of this *bête noir* of the medical profession. So we should welcome it as an efficient addition to our therapeutic armamentarium against this scourge of childhood.

In closing this paper, I wish to warn my readers on two points. The first is this: be sure that you procure a reliable preparation of the drug, even though it may cost a little more. Calcium sulphide *will not keep* in tablet-triturate form; it must be put up in *coated* granules, tablets or pills. And be sure that the coating is not so hard that the pills leave the body in practically the same condition in which they entered it. My second point I have already strongly emphasized, but will now repeat: *give the remedy in moderate-sized doses, frequently repeated to saturation.*

The Therapeutics of Pneumonia

By H. HAMILTON REDFIELD, A. B., M. D., Chicago, Illinois

Professor of Therapeutics in the Bennett Medicial College, Department of Medicine of Loyola University; Therapeutist to the Jefferson Park Hospital, Etc.

AT this season of the year, with its usual crop of pneumonia cases, the study of some remedies that have proven their sterling worth in the treatment of this dreaded disease is an interesting topic for the everyday practitioner, whose diversified practice brings him in more or less daily contact with these patients.

It has been my particular good fortune—I use the term "good" in its fullest acceptance—to be able to prove to my entire satisfaction the reliability and trustworthiness of a certain group of therapeutic agents that have not been given the attention they so justly merit in the treatment of pneumonia.

Standing at the head of this list, I name that peer of antipyretics and circulatory equalizers, aconitine.

We have, at the onset of pneumonia, a typical clinical picture of the therapeutic indications for aconitine—the full-tension, rapid pulse, showing an increased heart action coupled with a tonic stimulation of the vasomotor apparatus, conditions that are met and overcome better by aconitine than by any other remedy we could select. Given at the onset, it quickly manifests its power over the cardioinhibitory as well as the vasomotor center; the pulse softens and approximates the normal; the heart beats less violently; circulation is equalized, with a concomitant fall in body-temperature; the nervous symptoms subside; and the case begins to assume more favorable conditions.

Aside from this powerful action of aconitine on the heart and circulation, it possesses another action, in this class of cases, that would be sufficient to give it first place in the selected remedies. I refer to its effect upon the respiratory center, where it exerts a soothing and inhibiting action, causing a decrease in the number of respiratory movements, with a general betterment of the gaseous exchange occurring in the lungs.

Second to aconitine, I place bryonin, which in my opinion is a remedy that should never be overlooked in a case of pneumonia. Given a case wherein we have the typical pains in the chest—every motion

of inspiration causing an increase of the pain, the patient gasping for breath but afraid to breathe because of these pains—couple bryonin, aconitine, and veratrine together, and note the change that comes after these remedies have been exhibited for a short time. The temperature falls, the pulse becomes soft, the respirations slowed and more near the normal, the pain on inspiration disappears, the skin becomes covered with a soothing perspiration, and you have a far different picture to contemplate than that which presented itself when you entered the case.

This should constitute the initial, although not the continuous, treatment of pneumonia. As soon as the pulse responds to the action of the aconitine and veratrine, the exhibition of the latter should be stopped, and in its place we should make use of strychnine in doses of 1-128 grain, to be given throughout the course of the disease—in connection with aconitine, until defervescence indicates that aconitine can be dropped from the list.

Should there be symptoms that would indicate a pleuritic condition accompanying the pneumonia, then administer asclepidin. This remedy is specific in such conditions and can be given in connection with the remedies above referred to in the general treatment of the case.

For the general systemic infection, saturate the patient with calcium sulphide, giving at least 1-4 grain every hour, or oftener, until the odor of sulphureted hydrogen appears on the breath or skin; then increase the interval between the doses of the drug sufficiently just to maintain the effect.

For the bronchial condition so often met with, or the troublesome cough, which may or may not show croupous symptoms, give iodized calcium—I use 1-3 grain, in hot solution, every half hour.

The toilet of the intestinal tract should never be neglected; for, remember, you have, in addition to the pneumonia, a condition of torpidity of the intestines, a lack of peristalsis with its accompanying accumulation of the products of proteid decomposition; and that, consequently, there is a constant absorption of toxins taking place. This, of course, lends added import, by increasing the complexity of the symptoms. Give calomel, gr. 1-6, every fifteen minutes at the onset, until you have given 1 or 2 grains. Follow this with full doses of salithia, and repeat the salithia every third morning. Follow your initial cleaning out with the intestinal antiseptics (I give one 5-grain tablet every hour) until the stool is odorless, and then every two or three hours until complete convalescence is established.

Watch the heart carefully, and at the first sign of cardiac weakness begin with digitalin, cactin, strophanthin, convallamarin or adonidin; personally, I prefer cactin for the heart waverings which sometimes is encountered.

If the urine shows a nephritic condition (and in the majority of cases this will occur), give apocynin in full dosage. This will insure a free elimination of the urea, which otherwise would be very apt to prove an exceedingly troublesome factor.

Help the leukocytes in their fight against the invading organisms, by adding to their number with full doses of nuclein.

Should there appear, during the course of the disease, an involvement of the glands of the neck, then give phytolaccin, a granule every hour, and stop worrying about a probable suppurative adenitis.

To recapitulate. At the onset I give the following:

Aconitine, gr. 1-800; digitalin, gr. 1-64; veratrine, gr. 1-128; bryonin, gr. 1-64.

These are dissolved together in 24 teaspoonfuls of water, and of this mixture give a teaspoonful every half hour until defervescence is established or the pulse becomes soft and near the normal rate. As soon as the pulse becomes approximately normal, I withdraw the veratrine and substitute strychnine arsenate, gr. 1-128, in the original mixture, continuing the dosage as before, until the temperature is below 100 degrees, when I give a dose every hour until the normal point is reached.

In the presence of pleurisy, I add one granule of asclepidin, 1-12 grain to each dose, and continue as long as the symptoms persist, which generally is not more than twelve hours.

As before stated, for a nephritis I use apocynin, in solution, in full dosage, i. e., one granule, gr. 1-12, every one to two hours until free diuresis occurs.

Calcium sulphide to saturation from the beginning, with calcidin, calomel, salithia, intestinal antiseptics, and nuclein serve to rob these cases of all terrors for me, and make their treatment a pleasure rather than a constant worry, as is the rule under the old "whisky or brandy" system.

At the beginning of this article I said I had the "good fortune" to be able to prove this treatment; and when I said that I did not mean to imply that I had occasion to test it in maybe a dozen or a few more cases, but that I had used it in upwards of one hundred cases of pneumonia during the past three years. As a result of this method of treatment I am able to point with pride to a record of only three fatal terminations among all the cases treated for pneumonia.

One of these came to me with a pronounced nephritis that resisted all efforts, and the patient died with uremia three hours after entering the hospital; one was an old man, 68 years of age, a chronic alcoholic, with whom any treatment was futile; and the third, that of an infant. In not one of these one hundred or more cases has it ever been necessary to administer oxygen, use a pneumonia-jacket or upholster the patient with a coat of plaster or mud. They have been given regular diet at all times, with the addition of an occasional dram of port wine, milk and egg beaten up together.

My clinical records show that in no instance has a case failed to go into convalesence within ten days after entering the hospital, and one case which entered with a temperature of 105 degrees and a delirium so violent that he was placed in restraint, was discharged in ten days and went back to his work.

Had I been the sole diagnostician in these cases, I should freely admit that there was a grave possibility of my having erred in maybe 50 percent of the instances; but not only I have diagnosed the cases, but they have been diagnosed by the entire staff of the hospital, in many instances before the senior class of the Bennett Medical College, and in addition every known means of laboratory diagnosis has been called into play to insure a correct estimation of the case.

Some Remarks on the Colon Bacillus

The Toilet of the Anus after Defecation

By THOMAS R. EVANS, M. D., Huntington, West Virginia

WE have been in the habit of regarding the colon bacillus as rather innocent, and Dr. G. F. Lydston. in an article in CLINICAL MEDICINE for November, 1908, said: "There is the colon bacillus, and there is the yeast fungus. He doesn't mean to be good, but he is a valuable friend to the race, for all that, ... certain microbes, which come to infest, remain to bless." On the other hand Dr. Robert Morris, in a late article in *The Journal of the American Medical Association*, brings strong indictments against this invader. He considers the colon bacillus —with the possible exception of the tubercle bacillus—as the most potent cause of death, and states that it is so poisonous that it may cause the death of terminal bulbs of the coconut palm! So it is probable that the pathogenic properties of the colon bacillus are overrated, or mankind would long since have been swept off the earth.

Toilet paper does not completely remove the bacillus, and the majority of persons do not use paper of any kind or anything else. Besides, there is an art in cleansing the anus; yet, as ancient as is the procedure, there are many who are careless about it, and ignorant of the art and about the sometimes danger-

ous bacillus. The toilet-paper should be folded at least twice, and held by and between the terminal phalanges of the two middle fingers only. The thumb and index finger should play no part in this ignoble yet necessary act, else they are most likely to be contaminated.

The lower animals also excrete the colon bacillus, but they do not usually adhere to their parts, and wearing no clothing they do not furnish a warm nidus for them. Neither are they subject to hemorrhoids, or to "tabs," which also serve to retain this bacillus. But the upright position of man, and the hirsute condition of his parts, most eminently adapt his body to the conveyance of the parasite.

Theoretically, the parts should be washed, after each defecation, with warm water and an abundance of good soap, and the hands well washed in fresh water. Taking a hint from Kelly's work on gynecology, a soap in which urotropin is incorporated would be good for the washing of the anus, for he says that "it seems to have more effect upon the colon bacillus than upon any other organism." As yet there is no such soap on the market.

It is a homely word to use—but we must, or should, "wipe." The use of our modern toilet-paper, some of it medicated, is the nearest approach to a dry cleansing, but there is much prejudice in this matter. Some contend that the use of the newspaper causes piles, and so some even use sticks or chips if they are at hand.

A medical friend, one of much intelligence, whose guest we were in his country home, was insulted when we presented him with some rolls of toilet-paper. He said that he would not use it, evidently thinking that it was manufactured solely for dudes.

Soap and toilet-paper are two indices of what we call civilization, and, yet, in certain of our handsome and expensive hotels both of these substances are economized by the vehicles in which they are contained. One is gotten by the drop-method, and the other gives only one leaf at a time, and, between the elements of time and the colon bacillus, we are apt to try to save our time by a too hasty departure.

Such foreign writers as Escherich, Hueppe Lauelle, Tavel, Rodet, and Roux have studied this bacillus, while, in our own country, Welsh, of Baltimore, and Councilman, Roswell Park, and others have testified to the septic power of the colon bacillus. Gant states that this germ is the king of disturbers. My own opinion is that it often enters into the condition of typhoid fever, thus accounting for a multitude of cases in which there is no trace of the bacillus of typhoid fever.

According to Park, the colon bacillus "seems to enjoy a sort of commensalism," eating at the same table with other germs. Except chemically, according to Osler, it is difficult of distinction from the typhoid bacillus.

We think that typhoid fever is often preeminently a country-born disease, although the colon bacillus is never accredited with its causation; but since the typhoid bacillus has not as yet been made to fulfil one of Koch's laws of specificity, we should always be careful to wash our hands, and, whenever convenient, our anal region, after each defacation.

That old luxury-loving, or sybaritish, Doctor Rabelais wrote a dissertation on the art of wiping. After using the most diverse materials—toilet-paper and the corn-cob of the country yokel not mentioned—he wrote that the most grateful and the most absterging thing to his fundament was a live goose's neck.

Gastric and Fecal Analyses

Instances Where They Interpreted Baffling Symptom-Complexes

By B. G. R. WILLIAMS, M. D., Paris, Illinois

EDITORIAL NOTE.—This article is the fifth paper in Dr. Williams' excellent series on "Surprises, Delights, and Curiosities Encountered in Medical-Laboratory Work."

V.—Instances Where Gastric and Fecal Analyses Interpreted Baffling Symptom Complexes

AN insistent jangling of the telephone bell brought the physician to his feet, and a frightened female voice at the other end of the line sent him hurrying on a call. Arriving at the home of the lady, he was informed that her son was lying in the next room, dangerously ill with what to the mother appeared to be a severe attack of acute gastritis. It seems that the mother had nursed, during her earlier life, a number of sick people, and so was fairly well acquainted with many of the common symptoms and signs of disease. The patient lay upon a couch and one glance sufficed to prove that he was a very sick boy. However, a few questions directed to him were answered by scowls, whereupon the mother ventured an explanation:

"He has refused," she said, "to tell us anything concerning the cause of his illness. I returned from the store, to find him thoroughly nauseated, and eventually he expelled considerable mucus from his stomach."

"Are you certain as to this?" questioned the doctor.

"It *surely was* true mucus—I saw it, and it appeared to be very tenacious. He had been eating cherries, so that I could not tell the true color, but it was mucus, I am certain," she reaffirmed."

Just then a towheaded youngster, a playmate of the sick boy, came into the room. "T'wa'nt no mucus, Mrs. Wilson," he volunteered; but a look of warning flashed from the couch, and he hesitated.

"What do you mean, Jeff? What was it?"

The would-be informer now assumed an important air and looked wise, all the while conscious of the silent caution and what would happen if he "peached." His courage seemed to fail.

"You'll tell me, Jeff? What was it? That's a good boy—" Mrs. Wilson insisted.

"Well, t'wa'nt no mucus."

"But what was it?"

Confidentially taking the woman to one side, he raised himself on tiptoe and whispered in her ear—whispered in a voice audible to all present:

"Willie sucked an egg."

The immediate exchange of glances between the boys convinced the physician that the scientific question would, perhaps, be argued further at some future date.

While we do not pin our faith entirely to certain gastric and fecal findings, now and then the results of an analysis of suspected material, taken in conjunction with certain symptoms and signs, may indicate what is at fault in the alimentary tract.

Why Not All Stomachs Should Be Pumped

"Pump his stomach and see what you can make out of an analysis," we hear the hospital chief instruct his assistants. Such advice is excellent when certain other preliminary examinations have proven negative, but, applied to all cases of dyspepsia, it is open to question. Very interesting articles, I am certain, could be written by many readers of Clinical Medicine on "Some Stomachs Which Should Not Have Been Pumped." I shall cite an instance:

A certain "dyspeptic" was given a stomach analysis, twice daily for a month. During each of these operations he became cyanotic and remained thus for about an hour or so afterward. On several occasions quite a little fresh blood appeared on the lips, following the removal of the stomach-tube, but this was ignored.

His "stomach cough" grew worse and worse, and he lost considerable weight,

this latter condition being ascribed to inanition. Chemical and microscopical studies of the gastric contents were made and duly entered in the hospital records, but no reference was made to them, and if such had been made, no information would have been gained. Inasmuch as it was a stomach-case, the tube was used as a routine procedure. By and by one of the internes "smelled a rat." A few frowns were passed around, but nothing was said. The patient was quietly slipped into another ward. I had the opportunity of examining this sputum. I do not believe it an exaggeration to state that as many as 50 acid-fast bacilli were found in every cover-glass smear.

There are other stomachs which should not have been pumped, but it is scarcely worth the while to detail these instances. Here is a fairly safe rule to follow:

A Good Rule to Follow

Do not evacuate the contents of the dyspeptic stomach and search for evidence of disease by chemical and microscopical methods until all of the following diseases can be ruled out: pulmonary tuberculosis, chronic appendicitis, tabes, chronic intoxications and nephritis. Other affections may cause severe gastric symptoms without clinical manifestation of the true pathology, but this holds especially with the five conditions named.

After this preliminary examination is completed, we are ready to use the tube, providing there are no immediate contraindications, such as recent hemorrhage, marked arteriosclerosis, angina pectoris, aortic aneurism, etc.

While I am free to confess that the value of the gastric analysis is thus limited in certain instances, much information may be obtained from such a procedure when properly approached and completed. The differentiation of ulcer and cancer of the stomach often is made mainly upon a gastric analysis; and here is an instance.

The symptoms, in a woman of 45, had persisted for some five years, and this fact alone argued against primary carcinoma. Hemorrhages from the stomach had been frequent and profuse and the consequent anemia startling. But between these attacks the patient had boasted of excellent health. Eventually, however, the pain and indigestion continued without remissions and she began to lose weight. The analysis demonstrated the presence of Oppler-Boas bacilli and lactic acid, but sarcines and hydrochloric acid were absent. No cancer-cells were identified, although repeated searches were made for these elements. Fecal tests for occult blood, by means of guaiac and benzidin, were invariably positive, though no blood was found in the vomitus or stomach washings.

The surgeon often places more weight upon the symptoms and history than upon the laboratory diagnosis—perhaps this he should do. But in the instance cited, the abdominal cavity contained thousands of daughter tumors. It was presumed that a harmless peptic ulcer had become the seat of a secondary but none the less malignant neoplasm.

Another patient, a young man, was denied all foods containing meat, several days preceding a test for occult blood in the stools. This, the physician expected, would be negative, and so he was a bit surprised and bewildered to find hemoglobin in considerable amount. But the mistress of the house explained the matter quite satisfactorily: "Yes, doc, I'll bet his stomach is bleeding," she said. "His nose bleeds almost every day, and I reckin he's raw clear down." The physician decided that the boy must have swallowed some of the blood from the epistaxis. As a matter of fact, little weight was put upon the finding.

As to Worms

Intestinal worms, I very much suspect, do not know whether they exist or not. "Are we, or are we not?" they doubtless soliloquize.

The laity attributes the cause of almost every disease of early childhood to these parasites, whereas the physician has come to believe that they rarely or never are present. For such radically different opinions, explanation is easily made. The layman has received his education from the patent-medicine almanacs—advertisements of individuals interested in the sale of

"worm medicine"; while, on the other hand, the physician is instructed by the hospital teacher—the man who rarely sees an intestinal worm. Time was when it was right in fashion to have worms. Even today tapeworms and roundworms are encountered by almost all private practitioners, especially those located in certain communities. Exclusive of the hookworm, seatworm and various species of the tropical zone, it may be said that vermes which infest the alimentary tract of man produce no pathognomonic signs or symptoms. The only reliable method of diagnosticating worms is to find these parasites or their ova in the stools. I believe that I have examined pieces of almost every species of the edible vegetable kingdom, submitted to me as worms or as fragments of worms—for it might be explained that some of these "medicines" are supposed to break them into pieces or partly to dissolve them.

Gastric Contents Yield Few "Delights"

I must acknowledge that, after an examination of quite a number of gastric pumpings, I have observed but few true laboratory delights. It may be that these observations are at variance with those of other workers, and I trust that such are the facts. But I cannot believe that the routine examination of the stomach-contents, as carried out at present, approaches in value the analyses of the blood, urine, sputum, and so on. True, I have diagnosticated peptic ulcer, but the symptoms were already conclusive or else they did not rule out the advisability of immediate operative interference. I have been able to differentiate peptic ulcer and nephritis, but tests for serum-albumin in the urine or searches for casts gave me the only specific knowledge. I do not recall having diagnosticated carcinoma ventriculi until secondaries had rendered operation valueless. Such instances, it is claimed, have been observed by other workers. This I would not gainsay, but such like have never been recorded in my laboratory.

It may occur to the reader that I have overlooked the glycyltryptophan and the methylene-blue tests as well as several other recent innovations along these lines. Such, however, has not been so. These reactions have proven valueless or of questioned value with me. Occasionally I have been forced to differentiate between an essential anemia and a carcinoma of the stomach, but this was done by smear examination of the blood rather than by gastric analysis.

Applied to the neuroses and reflex dyspepsias, analytical investigation of the vomitus usually fails as a diagnostic procedure, although it is of use, perhaps, in sanitariums when systematic examinations and treatments are carried out. The achylia of today becomes a hypochlorhydria tomorrow and a hypersecretion a week beyond. Occasionally, however, a single analysis may be the means of initiating practical therapeutic measures.

All of which does not signify that I am taking an entirely pessimistic view of the situation. The gastric analysis often gives us dependable corroborative evidence, which after all, is of exceedingly great value when the symptoms might be a bit confusing. That specific revelation observed in the urine, sputum, blood, bacteriological, toxicological or puncture-fluid specimen at present baffles our search in a vomitus.

The stomach-pump is being overused in some hospitals. "Records must be completed" is the explanation, but rarely do the clinic chiefs place much emphasis upon the findings, or, in fact, in certain cases even take the trouble to refer to them. As a routine procedure for all cases showing symptoms of a gastric nature, the use of the stomach-pump is, as I have shown above, often contraindicated. I have seen men spend hours completing such records, working in a mechanical fashion and performing tests which could have no practical bearing upon the case subjecting these patients to unpleasant manipulations or even serious consequences and in the end be unable to venture a final diagnostic opinion.

Of late, Boas has also acknowledged that "the most modern methods have not markedly assisted in the early diagnosis of gastric cancer, etc."; still, the fact remains that Boas, Cannon, Schmidt, and other men continue to labor in this field, searching and

searching—and if these investigators dare hope, we may confidently expect brilliant discoveries in the near future. Good men are at work, and as years go by, our delights in this field will far exceed in number the surprises and curiosities.

My next paper will deal with "scrapings from obscure skin lesions."

Electrotherapeutics for the General Practitioner

Why He Should Make It a "Specialty"

By HOMER C. BENNETT, M. D., M. E., Lima, Ohio
Secretary of the National College of Electrotherapeutics

EDITORIAL NOTE.—Dr. Bennett has promised us a connected series of articles on electrotherapeutics. His skill as a writer and his experience as a teacher—principally by correspondence—insure something thoroughly worth the reader's while. We congratulate the members of the "family"—and ourselves on securing these articles.

II.

BY catalysis we understand the chemical, physiological, and nutritional effects produced in tissues and organs of a body by the passage, over or through them, of electric modes.

This catalytic action is that peculiar action of electrification, or that effect which it has or exerts, upon the vasomotor nervous system by which it affects nutrition. It is the most important of all the attributes of electrification, and catalysis is the keystone of the entire arch; and upon its thorough understanding depends our success or failure in the science of the practice of electrotherapeutics.

Therefore, let me urge upon you the great importance of thoroughly mastering this subject; and if you do so, I assure you that you will never be at a loss to know what application to make to get a desired effect, and likewise all the therapeutics of electrification which follows in these talks will be plain and easy.

Therapeutic Catalysis a Physiologic Process

Catalysis, in a purely therapeutic sense, is entirely a physiological process, dependent altogether upon the definite action of all the known variations of the electric condition, by whatever name known, whether galvanic, faradic, static, high-frequency, sinusoidal, cautery, or x-ray phenomena.

We see at once from this fact how universal and far-reaching is this catalytic action, and also how necessary it is to know and understand, because there follows, in some way, either beneficial or harmful, good or bad upon every application of electrification from every one of the known sources of generation and from all methods of application.

By the catalytic action, the nutrition is directly and indirectly, locally and generally affected, and by this process the stimulation, sedation, temperature, growth, and function of every part of the body can be more or less accurately regulated through the vasomotor nerve supply to the part, thus controlling the circulation.

All positive applications will produce sedation, relieve pain and inflammation, and contract blood-vessels, thereby quickening circulation. All negative applications produce stimulation and dilate blood-vessels, thereby slowing the circulation.

These are the direct local effects, while at the same time there become manifest indirect general effects in remote parts.

This accelerated flow of blood will, by osmosis, hasten the removal of waste products, and at the same time replace the loss with fresh deposits, which feed the parts, making them grow. The increased blood supply also has a thermic effect, warming the cold parts and cooling the hot parts by reestablishing the normal equilibrium. This

removes deposits, hypertrophies and effusions, and on the other hand nourishes and feeds atrophied and wasted and starved conditions.

You at once readily see that this nutritional effect of electrification is of the greatest importance. If we increase the nutrition of a weakened or diseased organ or tissue we assist in strengthening it and restoring it to its normal condition.

How Does Electrification Affect Nutrition?

Electrification affects nutrition by stimulating the circulation and, hence, bringing or sending more blood to the parts and providing more pabulum for the cells of the tissues. It also stimulates and assists the absorbents in their work and hastens the depuration of the tissues and organs of effete products. The direct effect upon the trophic nerves is also marked, as is the indirect nervous stimulation.

It is through the process of nutrition that the majority of chronic diseases are cured. Improve the nutrition of an atrophied part, and it grows larger. Improve the nutrition of a hypertrophied part, and it grows smaller.

Electrification appears to effect its curative results first in acting as a general tonic to the entire organism. By stimulating the circulation, the whole vegetative system seems to put on renewed action. Glandular secretions are stimulated, absorption is promoted, the waste of the system is carried off with greater rapidity, repair is hastened in still greater proportion. Nutrition is increased, the vital force is endowed with greater strength, and the whole well-being of the organism becomes improved to a wonderful extent.

How electrification acts—whether through its mechanical action upon all muscular tissues, or by virtue of its physiological action upon all the organs and glands of the body, or by its chemical action upon the contents of the minute cells of which the tissues are composed, or through the blending of all these combined effects—would require volumes to tell; but the fact remains that electrification will build up a reduced system, and do it more quickly than any other means.

These remedial effects are brought about in various ways, and the processes are mechanical, thermic, physical, chemical, physiologic, secretory, and absorbent.

What Are the Physiological Effects of Electrification?

The catalytic action is doubtless responsible for the results produced in the treatment of chronic exudations of the joints, glandular enlargements, cicatrices, swellings, fibrous adhesions, contusions, sprains, and so forth. The process started by the action of the mode continues for some time after the treatment has ceased.

Through proper electrical treatment we may increase or diminish or modify the action of an organ or tissue. We may affect the circulation and the absorbents, and promote secretion or excretion. This is through a physiological process.

In the same manner we may, with the proper mode and the proper method of application, produce various phenomena in the skin, we may increase the process of exudation, raise the temperature, affect the nerves of special sense, as causing flashes before the eyes or a peculiar taste and odor, and by electrizing the pneumogastric nerve increase or diminish the heart's action.

Through the effect of electrification upon the heart and upon the muscular fibers of the arteries we may affect the circulation most decidedly. We may also influence the circulation through the central and peripheral nervous system.

Through a general treatment of electrification (either mode being used) we may affect the capillary circulation and increase the flow of blood, thereby dilating the veins and producing an elevation of temperature.

Through the increase in circulation the warmth of the parts is increased, and these will usually remain at an elevated temperature for some time after the treatment.

What Are the Secretory Effects?

A mode of sufficient strength will stimulate the activity of the secretory organs.

The secretion of the mucous membranes, of the salivary glands, the stomach, liver,

kidneys, and so on, may be very greatly increased by proper electrical treatments. All are capable of stimulating the secretions of all these organs, but the galvanic mode acts more powerfully and produces better results. Many times catarrh may be cured by stimulating the secretions of the mucous membranes.

We may also stimulate the menstrual flow, the secretion of milk, the flow of saliva, the generation of spermatic fluid, the action of the sweat-glands, and so on. Under their proper headings will be given directions for the correct application of the various modes in producing these conditions.

It should be understood that the benefits derived through the use of electrification, in influencing nutrition, is due partly to the indirect, as well as to the direct action of the treatment.

What Are the Absorbent Effects?

The absorbents may be stimulated through the use of the galvanic mode; and through the stimulation of circulation and also through the chemical effect—influencing the process of osmosis—we may reduce hypertrophies, morbid growths, effusions, and so on.

Electrification properly applied is the most valuable treatment known in removing thickening of the skin, enlarged joints and glands, and in many kinds of tumors.

There is scarcely a chronic disease, when treated with electrification, where we cannot trace at least a part of the good results to the effects of modified nutrition. In the treatment of almost any chronic disease, always remember that electrification properly applied will stimulate the circulation, and that the increased flow of blood will bring an increased amount of nutrition; that the contractions of muscular tissues produce the same effect as massage or gentle exercise; that nutrition may be affected through chemical processes; that the processes of waste and repair may be promoted; and that the nutrition of the entire system may be improved through the indirect action as well as by the direct effect of treatment, and in that way succeed in securing a constitutional, tonic, stimulating effect.

The Mechanical, Thermic, Physical, and Chemical Effects

The mechanical effects of electrification, as appertaining to nutrition, can be explained as being quite similar to those of massage. The faradic mode produces better mechanical effects than the galvanic mode.

The interrupted mode, being constantly opened and closed during its passage through the body, produces very much the same effect as does gentle tapping or pounding or rubbing of the parts. This communicates an effect to even the more deeply seated tissues. The corpuscles of the tissues through which the mode passes are agitated, and the beneficial results obtained are due, to a certain degree, to the endosmotic action which has been stimulated by the mode.

The static potential variation, which will be fully explained later, is very marked in this respect, as is also static vibration.

Phoresis, which will also be taken up fully further on in our study, is purely a mechanical process, and is brought about by the galvanic and the static modes and also by the x-rays; but it remains yet to be shown that it in any way is secured by faradism or the high-frequency mode.

Thermic Effects.—The passage of the mode through the tissues also creates heat. This is more noticeable in using the galvanic mode, but it has been demonstrated that even mild faradic modes temporarily raise the temperature of the parts through which they pass.

A static insulation almost invariable raises the body-temperature and produces a restful feeling. The static insulation increases blood pressure, while the D'Arsonval high-frequency autocondensation mode will reduce blood pressure.

Physical Effects.—One of the physical effects of the passage of an electrical mode through the body is to cause transference of substances from one pole to another. The stimulation of this osmotic action depends upon the physiological rather than the mechanical effect of the mode.

Chemical effects of electrification are secured by the galvanic mode, there being very little, if any, chemical effect from the use of the faradic or sinusoidal, and none at all from the static mode.

The chemical effects of electrification are chiefly of an electrolytic nature. Many of the chemical substances of which the human body is composed may be decomposed by the action of the mode. The effects produced by what is known as catalytic action of electrical modes are by an increased absorption produced by dilation of the capillary blood-vessels and lymphatics, an increased capability of the tissues for imbibing fluids through osmotic processes, changes in the nutrition of nerves resulting from the stimulating and refreshing effects produced, changes produced in the molecular arrangement of tissues caused by electrolytic action and the result of the transportation of fluids from one pole to another.

Electrolysis, which will be explained in our next talk, is a chemical process, and is brought about only by the constant galvanic mode.

Sedation and Stimulation

The positive pole has a soothing, sedative, anodyne effect on irritated nerves, relieving pain. The negative pole has a stimulating, or irritating, effect upon irritated nerves, and will increase pain. In inflammatory and congested conditions there usually is pain. Here the positive pole has a double action, both upon the vasomotor and upon sensory nerves. Where there is pain without inflammation, it exerts its influence upon the sensory nerves only.

Some who are not acquainted with these various polar effects have condemned electrotherapeutics as being contradictory and paradoxical. They say that electrification is used to produce or to relieve pain; to cause or to reduce congestion; to enlarge atrophy and to decrease hypertrophy. Therefore, they argue, it is contradictory.

We, knowing the different and diametrically opposite polar effects, can explain the seeming paradox, and, by following the known laws of electrification, can get uniform results, and just as we want them. He who is ignorant of the fine points has one chance out of two of getting the application right or wrong. Those of us who are instructed, we who understand, take no chance and get the application right every time.

(*To be continued.*)

BE systematically heroic in little unnecessary points. Every day do something for no other reason than its difficulty, so that, if an hour of need should come, it may find you trained to stand the test. The man who has daily inured himself to habits of concentrated attention, energetic will, and self-denial in unnecessary things, will stand like a tower when everything rocks around him.—William James.

Anesthesia: A Personal Experience

And How It Was Robbed of Its Terrors

By GEORGE L. SERVOSS, M. D., Gardnerville, Nevada

WHEN a patient walks or is wheeled into a surgery for operation, there invariably is a greater horror of being thrown into oblivion than of the operation itself. If he goes to the surgical room with his mind absolutely unclouded, this horror is increased manifold. He has heard of the stage of excitement, and how some patients have met with serious injury at such a time, and is fearful that something of like character may happen to him. He has also been told that the majority of patients come off the table fearfully nauseated, and that does not detract from the horror. He expects to strangle and to go through all sorts of unpleasant sensations during the early stages of anesthesia, and that does not detract from the horrors. In fact, there is everything to dread, when one goes to the operating table, if a general volatile anesthetic is to be employed.

Early in March I was obliged to undergo an operation for the relief of a duodenal ulcer, and the thing most dreaded by me was the anesthetic—not that I feared any serious outcome, but I had seen so much of the effects of ether-anesthesia and so knew what to anticipate. I knew the early intoxicating effects of the drug from personal experience in its administration in hundreds of cases. I likewise knew that, if administered without previously giving an obtunding drug, it might be a matter of some time before full anesthesia would be produced and that undoubtedly there would be a fight upon the part of both the anesthetist and myself. There would be no preference in the agent employed, as my surgeon preferred ether in adults and would employ no other, unless it be nitrous oxide. I likewise realized what the recovery from the anesthetic would be if administered alone and without the prior administration of an obtunding drug. I had not taken up with my surgeon the question of the anesthetic and consequently did not know his technic in regard thereto. In conversation with my nurse, however, two days preceding the operation, I found that the surgeon made it his invariable routine to administer hyoscine-morphine-cactin one hour prior to the ether, and, so, acting upon this information, I took the matter up with him and he ordered the hyoscine-morphine-cactin given me in the manner stated.

As I was to go on the table at 9 o'clock on the morning of the 8th of March, I received the dose of hyoscine-morphine-cactin at 8 o'clock. Within fifteen minutes after the injection was made the effects became slightly apparent and at 9:30 a. m., when I went to the surgery, I should most assuredly have "fallen upstairs," had my nurse not been with me, as I was too sleepy to control myself. I walked into the surgery and climbed on the table without assistance.

Before getting on the table my nurse introduced me to the anesthetist, but had I not seen him previously, I should not have recognized him at any future time, inasmuch as my entrance into the room was as if in a dream. I was particularly good natured, as I remember and was also informed subsequently by those around, who said that I treated the matter as a joke rather than as anything serious. I remember sitting up for a moment after getting on the table, waiting for the sheet to be thrown over me. The anesthetist, as I recollect, went over my chest with his stethoscope, covered my eyes with a towel and then applied the mask to my nose, telling me to breathe regularly. In a minute or two he remarked to me that I took the ether like an oldtimer, and I replied that I could see no use in fighting. Then he increased the ether, and I "slid off the foot of the table." The next thing I knew was when I woke up in bed in my room at 2:30 in the afternoon.

From the time I went on the table until the knife was applied was exactly 11 minutes, according to the record. There was no stage of excitement, for I went to sleep in practically a normal manner and without the least fear or dread of the ether. At the conclusion of the operation and before I was removed from the table, my stomach was washed out with a normal salt solution. Then after being returned to my bed, the "Murphy drip" was started and at the time of my awakening from the anesthetic in the middle of the afternoon more than half a gallon of normal salt solution had been thrown into my bowel and retained. This procedure rendered my kidneys extremely active and I was kept busy urinating for the better part of twenty-four hours after the operation. This procedure and the washing out of my stomach removed all the ether which might have been swallowed during the operation and thus overcame the tendency to nausea and vomiting. I was only slightly nauseated, and that within a moment or two after awakening, this probably being due as much to moving upon my part as upon anything else, for I had endeavored to raise my head. I believe that had I remained absolutely prone there would have been no nausea.

While not sufficient of the hyoscine-morphine-cactin was administered to produce complete anesthesia, the amount employed surely robbed the ether of all its horrors. I was unusually happy and did not worry about anything. I was reading a story in a magazine when the injection was made, and continued reading until I had completed the tale, which was within a quarter of an hour before I went to the operating room, despite the fact that my nurse insisted that I should try to go to sleep. I cannot say that the reading was of any particular benefit, since I do not even remember a single character in the story, to say nothing of the title or plot. Everything was a sort of a dream after the effects of the hyoscine-morphine-cactin first became apparent.

Since my own experience with hyoscine-morphine-cactin as employed in this manner, it has been my good luck to be present at two operations in which this agent was used in a similar way, and in both instances the patients walked into the surgery in an unconcerned manner, climbed upon the table without assistance and took to the ether as though they actually liked it. In one case, that of a particularly well-built woman, there was some slight excitement, but it lasted for only a moment. In the other instance, the woman went under the ether without a single struggle and was ready for the knife in ten minutes after the mask was applied.

When I was able to visit my surgeon at his office, I discussed with him his method of inducing anesthesia with hyoscine-morphine-cactin, either alone or in conjunction with the volatile anesthetics, and learned that he had employed the agent alone only once, having used it, because of the attendant muscular rigidity, only initially for its quieting effect. I asked him why he had not ever used two doses of hyoscine-morphine-cactin and then followed with chloroform, instead of with ether, citing my own experience in several cases where I had employed it in that manner. His reply was that he had always preferred ether, and that this was probably the reason.

Then I explained my own method of using hyoscine-morphine-cactin. I generally give two full doses of hyoscine-morphine-cactin, one dose three hours before the operation, the second one hour previous to it, and a half-dose, if necessary, half an hour before the patient goes to the table. Then, I administered a little chloroform, if muscular rigidity persists. The doctor said that this sounded good and that he might give my method a trial, if occasion presented.

Then I went on and pointed out to him the fact that much less of the volatile anesthetic was thus required. With one single dose of hyoscine-morphine-cactin one hour preceding the operation, although the patient goes to the table without the usual feeling of apprehension, it is not clear that there is much, if any, reduction in the amount of volatile anesthetic required to hold him in a condition of surgical

anesthesia. In my case, for example, in order to hold me under the effects of the ether for the hour and a half that I was on the table, five 1-4-pound cans were necessary. In the first case cited above, that of a strong woman, four cans were required for a like period. The other patient was a small, frail woman, but even so, it required a full pound of ether to hold her for two hours. In my own case, from what I can gather, the anesthetist pushed the ether too far, as he was trying to "kill the snore," of which I was said to have been guilty.

Be this as it may, in all three cases the primary hyoscine-morphine-cactin had the effect of lessening the horrors of the patients in going to the table and taking the anesthetic. I know that, in my own case, the anesthetic worried me more than anything else and that, when I learned that I was to have the preliminary dose of the obtunding drug, the worry ceased completely.

Chronic Gonorrheal Urethritis

How to Treat it Successfully

By E. J. ANGLE, A. M., M. D., Lincoln, Nebraska

EDITORIAL NOTE.—This is the third paper of the series being prepared by Dr. Angle upon the treatment of gonorrhea and its complications. We urge every reader of our journal to peruse them all, from the very beginning.

CHRONIC urethritis is a most obstinate affection to cure, unless treatment is based upon a thorough knowledge of the pathologic changes that have taken place in the tissues as also of the exact localization of the lesions in the urethra and associated organs.

At what period does an attack of gonorrheal urethritis become chronic? Casper says, in six weeks; White and Martin say, in three months. Most writers evade the question, and wisely so, as it is not a matter of time, but rather one of symptoms and pathology.

The duration of any acute disease, especially one presenting the variations and complications of gonorrhea, can not conform to any arbitrary period. Chronic urethritis is defined by Morton as "a chronic mucopurulent discharge produced in certain localized areas of the mucous membrane of the urethra which are in a state of chronic catarrhal or granular inflammation." This stage may be reached in six weeks or may be delayed for several months.

Definition and Causes

Wolbarst characterizes chronic urethritis, as opposed to acute urethritis, by the following features: (1) The comparatively slight urethral discharge, usually found on arising in the morning. (2) The absence of acute pain or urinary urgency. (3) The comparative rarity of extensions and complications. (4) The comparative frequency of reflex neuroses. (5) The tendency to more or less frequent recurrence. (6) The variable potentiality of infection inherent in the urethral discharge.

The causes of chronicity are many. There is, perhaps, no acute disease affecting man that shows a greater tendency to resist treatment and to become chronic than gonorrhea. Among the predisposing causes, mention should be made of systemic taint incident to cancer, tuberculosis, gout, diabetes, nephritis, anemia, syphilis.

The more direct causes are: (1) Congenital narrowing of the meatus and the valve-like folding of the urethral mucosa. (2) Hypospadias, with its accompanying paraurethral follicles and diverticula. These follicles are quite long and tortuous and usually open near the deformed meatus. (3) Irritating conditions of the urine, such as are found in oxaluria, phosphaturia, gout, and digestive disorders. (4) Errors in diet, indulgence in liquors and highly-seasoned

foods. (5) Excess in physical exercise. (6) Sexual excitement and intercourse. The resumption of intercourse too soon after an apparent cure. (7) Injections which are too strong or improperly applied. (8) Infiltrations and strictures of the anterior urethra. (9) Localization of the infection in the urethral glands and especially in the prostatic follicles and the seminal vesicles.

The Pathologic Lesions

The pathologic unit of chronic urethritis is a round-cell infiltration of the mucous membrane and the deeper tissues. Two well-defined types are found:

1. The superficial, or catarrhal, form, in which the infiltration is confined to the mucous membrane, subepithelial connective tissue and the follicles and crypts, and which is not followed by stricture.

2. The deep form. In this type the infiltration extends deeply into the tissues and frequently involves the meshes of the corpus spongiosum, and, unless intelligently treated, frequently passes on to stricture.

Both types may be represented in the same case. The infiltration may be more or less general along the entire course of the urethra, or more frequently limits itself to the periglandular tissues. The urethral glands and follicles are either widely dilated or occluded. The points at which the subsiding inflammation most frequently lingers are the penoscrotal angle, and that portion of the pendulous urethra just anterior to it, the bulb, and the prostatic urethra. The reason for the tissue changes which determine the localization of the disease at these points is readily found: the mucous glands, or follicles, of the urethra are particularly numerous in these locations.

The infiltration in the penile urethra is fairly superficial and, if cicatrical contraction occurs, gives rise to strictures of large caliber. The infiltrations found about the bulbous portions of the urethra are usually quite extensive. If the cellular deposit is not absorbed and is replaced by fibrous connective tissue, then at this point the most close and densest stricture of the urethra will occur. Owing to the lack of glandular tissue, the membranous urethra rarely shows any pathologic changes. In the posterior urethra the inflammation usually is confined to the floor and always involves the prostatic follicles and not infrequently extends along the ejaculatory ducts into the seminal vesicles. The infiltration may be either superficial or deep and the histologic changes are essentially the same as found in the anterior urethra.

The verumontanum is always affected; it is enlarged, deep-red in color, softened, and its natural sensitiveness is increased to a high degree. This structure is the most highly organized portion of the urethra. The compression of its nerves, following the contracting of the submucous deposits, gives rise to many local and reflex nervous disturbances. The symptoms may be mental and take the form of hypochondria, depression, irritability, and inability for mental effort. I have known suicide to occur from this cause. Urination is frequent and urgent. The sexual appetite is either absent or perverted. Emission occurs prematurely, due to the irritable condition of the ejaculatory ducts. Pollutions occur during sleep and may be stained with blood.

Diagnosis and Examination

The history and results of examination of each case should be kept for reference, and for this purpose I recommend the card reproduced here, which I have used for several years. The subsequent progress and treatment are recorded on the reverse side. Arrangement of record-card:

Name.....Address.....Date.....
Occupation.....Age....Ref. by.....
1st Urethritis....} Treat. Single.....
2nd Urethritis....} Comp. Married.....
3rd Urethritis....} Duration.....
Diagnosis.....Incubation.....
Meatus.....Disch'ge} Amount..... Microscopical.....
Character....
Urination} Night..... Day..... Pain..... Blood..... Urine} I..... II..... III..... IV..... Sexual Symptoms
Prostate.....Vesicles} Right..... Left..... Stricture.....
Bladder.....Testes} Right..... Left..... Epididymitis...
Joint lesions.....Other complications.....

I cannot emphasize too strongly to my readers the necessity of a careful examination of every case of chronic urethritis. If the first two or even three office calls

are consumed for this purpose, the time is well spent. The lesions must not only be located but their character and extent ascertained and whether bacteria are present.

Microscopic Diagnosis

If discharge is present at the meatus, its character is noted and a smear taken and prepared for microscopic examination. Shreds from the first and second urines and from the prostatic and vesicular massagings likewise are stained and examined. The results of the microscopic findings have an important bearing upon the plan of treatment to be pursued. This procedure should be repeated at regular intervals.

Microscopic examination of the slides will give one of the following findings: (1) Gonococci. (2) Gonococci associated with other bacteria. (3) Colon bacilli, streptococci and staphylococci, either single or combined. (4) No bacteria.

Gonococci and colon bacilli is a combination of frequent occurrence, although the staphylococci by no means are rare. The Gram stain will be necessary, to differentiate the microorganisms, in many instances. The failure to find gonococci at the first examination does not necessarily show their absence. The gonococci may be latent and appear only at acute exacerbations. In order to determine their presence or absence, it will be necessary to use some irritant, such as a 1 in 20,000 bichloride irrigation, or a 1-2- to 1-percent silver nitrate instillation. The patient should report in twenty-four hours for examination. The presence of pus in any considerable quantity is an evidence of bacteria. As bearing upon this point, I recall a case of urethritis of five or six years' standing. Repeated microscopic examinations were negative, and not until after three or four months of active treatment did I succeed in finding a group of cells massaged from the prostate gland that contained a group of characteristic gonococci.

Three- and Four-Glass Urine Tests

The three-glass urine test is made as follows: The patient comes with a full bladder. First the anterior urethra is irrigated, through a small rubber catheter passed to the bulb, with five ounces of boric-acid solution. The washings constitute glass No. 1 and will contain any shreds from the anterior urethra. The patient then passes half of his urine in the second glass. This will contain the pus and shreds washed out from the posterior urethra. The prostate gland is then massaged, after which the rest of the urine is voided into the third glass. This is termed the "expression" urine.

However, the seminal vesicles may be massaged at the same time as the prostate, or, what is better, through a catheter 5 ounces of a boric solution is injected into the now-empty bladder and then the vesicles are massaged, after which the bladder is to be emptied. The addition of this latter procedure constitutes the four-glass test. If the prostate gland and vesicles are healthy the expression urine is only slightly milky in color, but if diseased, the fluid contains heavy masses, numerous shreds or free pus which rapidly sinks to the bottom of the glass.

After the first examination, the two- or three-glass test, as described under acute urethritis, will afford sufficient data as to the progress of the case.

The glasses should be carefully inspected. Turbidity due to pus indicates an acute exacerbation and then instrumental examination should be postponed until the urine becomes clear and contains floating cobwebs of mucus and shreds. Shreds present themselves in several well-defined forms, namely, heavy flakes, long slender filaments, tadpole-shaped bodies, and small granules. The slender filaments consist of mucus and pus, with an occasional pus-cell. They are transparent and float high in the glass. These shreds are of favorable import. The heavy flakes are purulent or mucopurulent and denote eroded or granular patches along the urethra. The small granules and tadpole-shaped bodies (Fuerbringer hooklets) have their origin in the urethral and prostatic follicles.

Instrumental Exploration of the Urethra

The next step in the examination consists in exploring the urethra.

If the meatus will not admit a No. 24 F. bulbous bougie, it should immediately be enlarged to No. 30 or 32. For exploration we can use either the urethrometer of Otis or a set of bulbous bougies ranging in size from 12 to 30 F. Personally, I prefer the flexible bougies for the deep urethra, and the urethrometer for the anterior urethra. The dilating extremity of the urethrometer is protected by a rubber cover. The instrument should be sterilized, cover and all, and gently introduced down to the cut-off muscle, the bulb being at its minimum size (15 F.). The bulb is now expanded to a size corresponding to the normal dilatability of the urethra and then gradually withdrawn. In this way we are able to note the extent and location of infiltrations.

If a No. 30 bulb passes freely from bulb to meatus, we can eliminate infiltration and stricture. After withdrawing the bougie, a straight steel sound (22 to 28 F.—the size selected depending upon our previous findings) is passed, whereupon the urethra is palpated and the presence or absence of follicular indurations determined. In follicular involvement, numerous nodules the size of bird-shot are discovered along the entire anterior urethra.

Urethroscopic examination of the anterior urethra is not difficult, and the instrument should be in the hands of every practitioner having much to do with urethral disease. Urethroscopy of the deep urethra, however, is a much more difficultly technical procedure, and it should be left largely in the hands of the specialist.

Urethroscopy by no means is necessary in every instance, inasmuch as the findings with it are mostly a mere repetition of the information gained with the bougie and sound. Still, anterior urethroscopy may disclose granular patches which bleed easily, erosions, scars, papillomata, infiltrations and infected follicles. The writer recalls a patient who had suffered from a urethral discharge for six or eight years. This man had gone the rounds of physicians without receiving any lasting benefit. The discharge contained numerous gonococci and was confined to the anterior urethra. A course of injections, dilatations, and irrigations failed to remove the infection. Finally the urethroscope revealed two or three infected follicles and the destruction of these by electrolysis promptly remedied the difficulty.

A chronic urethritis generally involves both the anterior and posterior urethra. It is occasionally confined to the anterior but seldom to the posterior urethra.

The General Treatment

Most of the general hygienic rules for the treatment of acute gonorrhea do not apply to the treatment of the chronic stage.

The diet should be full and but few restrictions be enjoined. Exercise always is beneficial and should not only be permitted but encouraged. Golfing, tennis, horseback riding, boxing and swimming should be practised, in moderation at first, then gradually increased as the same are found to be beneficial. Alcohol should be interdicted as long as any gonococci remain, but after their disappearance its use may be resumed by those accustomed to it. Alcohol is a powerful stimulant to the urinary tract and frequently the "morning drop" has disappeared after a debauch, much to the chagrin and discomfort of the attending physician.

Much the same rules apply to sexual intercourse as for alcohol. As long as gonococci remain, intercourse should be prohibited, but after their positive disappearance it is likely to do good by relieving the congestion and irritation incident to ungratified sexual desire.

Internal Medication

There are no specifics for chronic urethritis. Exceptionally a patient is benefited by the use of balsams, alkalis or antiseptics. Urotropin should be given for a day preceding and following urethral instrumentation. Acute exacerbations demand the same medication as given for acute urethritis. Calcium sulphide, in this connection, has the approval of many competent observers. Granules of 1-6 grain should be given every two hours until the characteristic effects of systemic saturation are produced. Moderate doses of a soluble salt of berberine undoubtedly decrease the urethral discharge. Whether this is from

a general or a local influence, I am unable to say. Many patients are anemic and reduced, which is an indication for tonics and reconstructives, and I know of no better preparation than the triple arsenates combined with nuclein.

Local Treatment

The indications for local treatment are as follows: The removal of fibrous deposits, the restoration of the thickened and rigid mucous membrane to its original soft and elastic condition, the overcoming of surface inflammation, and the destruction of the gonococci and other bacteria harbored in the diseased follicles and glands.

I am in the habit of using the following solutions and instruments in the local treatment of chronic urethritis, viz:

For instillation: A 20-percent solution of argyrol. A 1- to 10-percent solution of protargol. A 1- to 5-percent solution of hegonon. Solutions of silver nitrate varying from 1-4 to 2 percent. Copper-sulphate solutions of 1- to 5-percent strength.

For irrigations: Mercury oxycyanide, 1 : 8000 to 1 : 2000. Silver nitrate, 1 : 8000 to 1 : 1000. Protargol, 1: 1000 to 1 : 250. Albargin, 1 : 2000 to 1 : 1000. Potassium permanganate, 1 : 6000 to 1 : 2000.

Topical applications through the endoscope: Solutions of silver nitrate, 6 percent, 12 percent, 25 per cent and 50 percent in strength.

The necessary instruments are the following: (1) A set of flexible bougies or straight steel sounds ranging from No. 18 to 30 F. (2) A set of blunt-tip Guyon-curve sounds for the deep urethra, sizes 24 to 33 F. (3) Kollman straight dilator for the anterior urethra. (4) Kollman dilator with the Guyon curve for the bulbous and prostatic urethra. (5) Endoscopic tubes, Nos. 22, 24, 26, 28 F.

The keynote of treatment of chronic urethritis is stimulation. Of course, this must be done with judgment and observation, and increased or decreased according to the effects produced.

Details of Urethral Irrigating

Irrigations, a procedure I heartily condemned for acute gonorrhea, are beneficial in the chronic stage. The forced distention of the urethra stimulates the mucous membrane, promotes absorption of infiltrations, and removes the plugs from the crypts and follicles.

The irrigations can be given with an ordinary gravity apparatus, or with a hand-syringe holding 4 or 5 ounces and provided with a suitable urethral tip, or by injecting through a small rubber catheter (No. 14 F.). This latter method is useful when the compressor urethra is rigid and resists the onward passage of the fluid. After cleansing the anterior urethra, the tip of the catheter is passed along the canal until its eye rests within the membranous portion. From 5 to 10 ounces of the solution are injected, and then, after the catheter has been withdrawn, the bladder is emptied.

At the beginning of treatment, our therapeutic cue is obtained from the condition of the urine. If it is cloudy and turbid from pus in one or both glasses, urethrovesicle irrigations are indicated; if gonococci are present, I usually begin with protargol (1 : 1000 to 1 : 500), using a pint of this solution every other day. At home, the patient is instructed to use a 1-2- to 1-percent solution of protargol or hegonon, morning and evening.

If, after a week, the urine is less cloudy and contains more mucus and less pus, I substitute albargin for the protargol, using it in a strength of 1 : 1000. Later, when the gonococci have disappeared, I find the permanganate (1 : 8000 to 1 : 2000) useful for toning up the mucous membrane. If mixed infection is present, mercury oxycyanide (1 : 8000 to 1 : 2000) is indicated; frequently I combine this with the protargol. When the shreds and discharge no longer contain gonococci, the patient uses some of the customary astringents at home. Zinc sulphocarbolate, 1-2 percent, or zinc chloride, 1 : 1000, combined with fluid hydrastis, will be found satisfactory. Patients who have used hand-injections for a long time usually do better if local treatment is entirely dispensed with at home.

After the body of the urine has become clear and with the shreds floating in it, instillations of silver nitrate are indicated.

These should be given every few days and be gradually increased—from 1-4 to 1 percent or even to 2 percent. Alternating, with intervals of two days, the prostate gland should be massaged, if the deep urethra is involved, and this followed by a protargol or albargin irrigation in case gonococci are present, or by the permanganate, in their absence.

The technic of massaging will be given in detail when we come to the treatment of prostatitis. I let my patients hold a little vessel under the glans during the massaging, for much of the fluid is forced outward along the urethra during this procedure. The amount and character of the expressed fluid is noted each time.

Silver nitrate, at this stage, may be used for irrigating; then, if the discharge increases and gonococci become numerous, protargol should be substituted for a time. Instead of the irrigation after the prostatic massaging, instillations of argyrol, protargol or hegonon can beneficially be used, employing as strong a solution as possible without discomforting the patient.

Infiltrations, and the Use of Sounds

Infiltrations are present in greater or less degree in almost every case, and dilatation should be begun as soon as practicable after the body of the urine becomes clear, and should be given every four days. It is better to begin dilatation by using the largest sound that will pass without any effort on the part of the operator or causing pain to the patient. In highly sensitive patients, a previous injection of a 2-percent solution of cocaine will be necessary.

The sound should first remain in the urethra one minute, then the time increased a minute at each subsequent treatment, until the duration is a quarter of an hour. Massaging of the urethra upon the sound will assist in the absorption of infiltrations. An irrigation with one of the silver salts should always follow dilatation with sounds or dilators.

When the sounds have reached the size of No. 28 or 30 F. it is best to substitute the Kollman four-bladed dilator. After first drawing the rubber cover over the instrument, it is thoroughly cleansed with soap and water and sterilized by placing in a jar of a 1 : 2000 solution of mercury oxycyanide, for five minutes. The covers are again cleansed and sterilized before being removed from the dilator. The urethra is much more tolerant of extreme dilatation of a limited portion than of a less degree applied throughout its full length. It is surprising how little pain or reaction follows a dilatation with a No. 35 or even 40 F. instrument. The utmost gentlenesss should be exercised, and the increase in size should not exceed 1-2 to 1 point at each instrumentation.

For a time the discharge may first be increased, but this usually subsides within a few days. If not and the urethra becomes tender and irritable, we are either using the dilator too frequently or increasing its size too rapidly, and so a period of rest is indicated. The rubber covers should be tested each time before inserting the instrument in the urethra. Oil or vaseline should never be applied to lubricate the instruments. I use the following lubricator:

Mercury oxycyanide.....grs. 3 1-2
Glycerin.....drs. 5
Tragacanth.....grs. 45
Water, sterilized.....ozs. 3
Keep in a sterile glass-stoppered bottle.

When the prostatic follicles are involved, their massaging should alternate with the dilatations. This should include stripping of the seminal vesicles if they are the seat of infection. In a minority of cases only will dilatation of the deep urethra be necessary. For the practitioner of little experience, the Guyon-curve sounds are recommended. In many cases of irritable urethra with beginning contraction of the vesicle neck, no other instrument can take the place of the curved dilator.

If after a month no improvement is apparent, it is best to stop all local treatment for a period of two weeks and then begin again. When, however, a patient fails to get well, it usually implies some focus of infection that has been overlooked or that a constitutional diathesis is present which needs correction. It is at such times that a careful endoscopic examination is demanded. Erosions and granulations can be touched with a strong solution of silver

nitrate, papillomata removed, the follicles injected through a fine cannula or destroyed by electrolysis.

The bacterins deserve mention in the resisting types, where the opsonic index is low.

Recently I have used Parke, Davis & Co.'s combined bacterin, with the most charming results. Each Cc. of this bacterin contains 400 millions of staphylococci and 500 millions of gonococci. The treatments are given at intervals of a week. I first administer 1-3 Cc., at the second, 2-3, Cc., and a full Cc. for the three final injections. The autogenous are in every way preferable to the stock bacterins. Local treatment should be continued at the same time.

The "morning drop" and shreds should be regularly examined, and when the discharge is found to consist largely of epithelium, local treatment should be discontinued. Occasionally a urethra is found which remains hypersecretive long after all gonococci have disappeared and after all pathological lesions have been removed. In this condition I have frequently saved my reputation by prescribing the following injection:

Bismuth subnitrate.....drs. 3
Fluid hydrastis (yellow).....ozs. 2
Boroglyceride solution, 50 percent. oz. 1
Mucilage of acacia.....oz. 1
Camphorated water, to make....ozs. 6

Label: Inject two or three times a day, retaining it one minute.

Prognosis

Practically every case of chronic urethritis is curable if properly treated. The patient should be informed at the beginning of treatment that it will require from two to six months to do this. Knowing this, he will be less apt to grow impatient and abandon treatment before he is well.

Some Landmarks in Diagnosis*

By SIMON J. YOUNG, M. D., Valparaiso, Indiana

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WE often hear that the medical profession is overcrowded. I do not subscribe to this belief. The only place where it is crowded is at the bottom. There is plenty of room for scientific men in our profession—men who are eager, open-minded students always; men who study and work and think.

The great field of preventive medicine has been barely surface-scratched. There is hardly a man among us who does not overlook pathologic lesions daily. Why? Not so much because of ignorance as because of inaptitude. We are not thorough enough in our examinations.

If we would have people clamoring for our services, we must exhaust the possibilities in every case that comes under observation. The men who are in the fore-front of our profession are the men who have kept step with the march of science. This sounds academic, and so it is. It is a matter of common knowledge. To know it, is one thing, however; to put in practice that knowledge and profit by it is quite another.

Modern Medicine Stands for Exact Knowledge

If modern medicine stands for any one thing, it stands for certitude—for exact knowledge based upon careful, scientific investigation. The day has passed when we may classify diseases according to symptoms and apply remedies by a process of elimination. Today we must find the cause. To find it, we must search, diligently, patiently, thoroughly. To make a diagnosis, one should begin with a careful history, proceed to an exhaustive physical examination, and conclude with accurate laboratory investigations. When these steps are concluded, the physician should be in possession of all facts having a bearing

*Read before the La Porte County Medical Society, La Porte, Ind., Dec. 8, 1911.

upon the case, and from these facts he must weave the fabric of his diagnosis.

The ability to use these facts intelligently, to make logical deductions, to interpret correctly, will depend upon his previous training. To this end it is of the utmost importance that he avail himself of opportunities for the acquisition of knowledge. He should attend medical societies and rub elbows with his fellow practitioners. He should subscribe for medical literature and buy books, both to be used daily for reference. He should, above all, indulge in occasional postgraduate study.

I know of nothing which has been more helpful to me than my frequent visits to the clinics of my fellow-workers. A study of pathology in the dead home is not enough. We should have a knowledge of living pathology, such as the surgical clinics afford us. Here we listen to the histories, see the examinations, hear the diagnoses, and finally witness the operation which discloses the pathologic condition. It is the most impressive teaching possible, and the lessons we derive from it are not limited to surgery. We are trained thereby in correct interpretation of symptoms, and there is no limit to the application of such teaching.

Equally valuable are the clinical instructions in other branches. And though a man may not have a working knowledge of laboratory technic, every doctor ought to own a microscope and be able to make blood counts and a few of the common examinations of sputum and urine. Likewise he should so far familiarize himself with laboratory methods as to be alive to their needs.

With a training of this kind (which each one may acquire if he will), the physician may proceed to an examination with confidence that in the great majority of cases he will be successful in finding the lesion, if one exists, in all but the most difficult cases. And because of his own thoroughness, he will appreciate in the difficult ones the service of the specialist.

Routine Examinations Advocated

I am a believer in routine examinations. They may be varied, of course, and elaborated at will. Every diagnosis, however, should possess a superstructure, and this is established by routine procedure. Furthermore, these case-histories should be recorded.

The first plank in this superstructure, then, is the history. This may be developed according to any desired plan, but the point is, there should be some plan. Often the history gives a valuable clue, without which interpretation is difficult. For instance, in abdominal inflammation much depends upon the order of the symptoms. In acute appendicitis we have, first, pain; second, nausea and perhaps brief vomiting; third, moderate rise in temperature; fourth, tenderness, at first diffuse, then localized. Unless we are able to form a mental picture of this disease, these symptoms mean nothing definite. But with such a picture before us we see an inflamed appendix. The appendix swells until the pressure produces pain, sharp and severe. Through the sympathetic system, the solar plexus receives the shock of pain, and its association with the stomach renders that organ more sensitive. The result is nausea. If food is in the stomach it is vomited. The absorption of toxins from the appendix leads to fever. This is usually mild, and this fact is explained by the small amount of absorption that can take place through the limited size of the infected area and its small drainage. Finally, as more swelling takes place, the tenderness becomes localized.

Again, let us consider osteomyelitis. The history will usually determine the question as to whether the primary infecting agent was or was not the tubercle bacillus. In most instances there is a history of an injury. If tuberculous infection ensues, it will be slow and insidious in onset. Often symptoms do not appear for six weeks or two months. Then pain, tenderness, and stiffness gradually develop. Why? Because the tubercle bacillus has a long period of incubation. How different in pus infections. In twenty-four or forty-eight hours following the injury there is a chill, followed by high temperature. Why? Because the ordinary pus-germs have a short incubation period, usually less than seventy-two hours.

These examples are cited only to illustrate the necessity for the writing down of careful histories.

The Physical Examination

In physical examination we have the same necessity for thoroughness. Such an examination should proceed systematically, and without preconceived opinions. Only in this way do we avoid pitfalls.

A résumé, here, of a complete physical examination, even in outline, is not to be thought of. I will, however, cite a few examples, as in the case of the history taking, to emphasize the import of what I am trying to convey.

Take the eye, for example. An Argyll-Robertson pupil may direct attention to unsuspected syphilis. An ophthalmoscopic examination may reveal exudates or degenerations that suggest arteriosclerotic changes or nephritis.

The nose, so often overlooked, may reveal hyperplasias or accessory sinus infections of great significance.

The same is true of mouth examinations. Here we find decayed teeth, mucous patches, focal infections in the alveolar process or chronic tonsillitis, often as sources or evidences of local or systemic disease. Tonsillitis, especially, is responsible for many serious and widespread infections; for example, acute and chronic arthritis, nephritis, endocarditis, and possibly other lesions. This is due to the presence of infection in the tonsil, which, undergoing acute exacerbation, results in systemic toxemias and infections.

The same thing may be said concerning chronic infections in the sinuses accessory to the nose and the ear; to cholecystitis, to appendicitis. Prostatitis and epidydimitis in the male as well as pyosalpinx in the female may have similar results.

Of late we have come to realize the part played by the ductless glands in the economy of life, and no examination should fail to take into consideration the thyroid, the thymus, the adrenals, the testicles, the ovaries. Also the hypophysis should be thought of in connection with certain metabolic changes, and even this gland is now accessible for surgical treatment.

A physical examination is not complete unless it begins at the vertex and extends to the soles. It cannot properly be made without removal of the clothing, at least from the trunk.

Any good textbook on diagnosis will give the technic of physical examination. We all know the value of inspection, palpation, percussion and auscultation. But how often do we practise these methods? It is only by experience, gained after making hundreds of complete physical examinations, that we may be sure of results.

I say, then, it is important that we should be always thorough. Every case which I examine adds to the sum of my knowledge. Furthermore, every case adds to my future earning capacity, because it increases my efficiency as a medical man. In this way I find opportunities for treatment which would otherwise escape, to be discovered and treated elsewhere.

Two recent articles from the pen of Mark I. Knapp* of New York, emphasize the value of inspection and palpation. More than this, they direct attention to new methods of application in both of these systems. A perusal of these two articles will convince most men that the faculties of sight and touch may be so highly trained as readily to recognize organs and pathologic conditions which before seemed difficult of location.

In percussion, we must learn the value of the light stroke. It is quite easy to outline the apices of both lungs by extremely light percussion—so light as to be heard only five or six inches away. This is done by percussing from above downward on the neck, and from without inward on the shoulder, marking on the skin the line separating flatness from resonance. By extending the lines anteriorly and posteriorly, a retracted apex is recognized by the narrowness of the resonant zone on the diseased side. A congested or consolidated apex is disclosed by the fact that no sharp line of demarcation exists between flatness and resonance. This is merely another illustration of the value of extreme care in physical examination, with refinement of our methods. The

*Knapp: *The New York Medical Journal*, Vol. XCIV, pp. 1016 and 1064.

benefit from auscultation is often increased when it is combined with percussion.

Laboratory Work

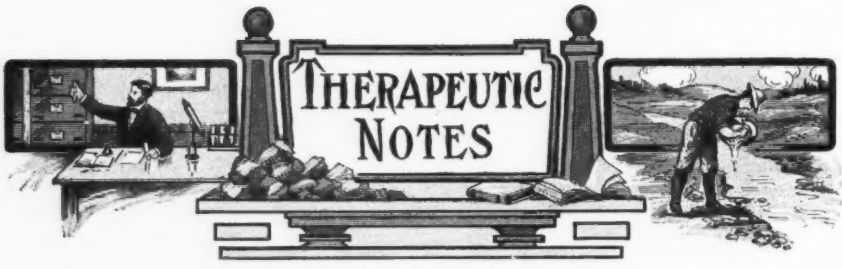
The value of laboratory work can only be appreciated when we make frequent employment of it. If there is any danger, it is in placing too much reliance upon laboratory findings alone. As a rule they must be interpreted in connection with the history and physical findings. Studied in this way they are invaluable. Every physician should inform himself upon the principles involved in laboratory investigations and be able to interpret a laboratory report. I count as invaluable a knowledge of hemology—especially blood counts (including differenting leukocytes), the Wassermann reaction, the tuberculin test, and blood cultures. Invaluable also are examinations of cerebrospinal fluid, especially in differentiating meningitis from poliomyelitis. Various cultures from mucous membranes, glands, excretions, and tissues at times give valuable help. The x-ray has a diagnostic value which is not as widely appreciated as it deserves. The scope of the laboratory is constantly widening, and an accurate diagnosis is not possible in a large percentage of cases without its aid.

I have said nothing about the various instruments of precision, which belong largely within the domain of the specialist, but without which diagnosis may be impossible.

In conclusion let me say that I have made no effort to catalog the procedures essential to a diagnosis. I have merely aimed to emphasize the value of careful, painstaking, particular work. I know that it pays from every standpoint. It pays in a consciousness of work well done. It pays in personal reputation. It pays in coin of the realm, which is not always the least desirable measure of success.

THERE are millions of positions in the busy world today,
Each a drudge to him who holds it, but to him who doesn't, play;
Every farmer's broken-hearted that in youth he missed his call,
While that same unhappy farmer is the envy of us all.
Any task you care to mention seems a vastly better lot
Than the one especial something which you happen to have got.
There's but one sure way to smother Envy's heartache and her sob:
Keep too busy at your own to want "the other fellow's job."

—Strickland W. Gillilan.



VISCUM ALBUM IN UTERINE HEMORRHAGE

La Quinzaine Thérapeutique for February 25 says that as early as 1886 Dr. Ménière reported, in the *Gazette de Gynécologie*, excellent results from the alcoholic extract of viscum album in uterine hemorrhage due to fibroid tumors, and particularly when ergotin, ergotinine, and other hemostatics had failed.

THE IRON-CONTENT OF COW'S MILK

Edelstein and von Csonka (rev. in the *Therapeutische Monatshefte*, 1912, March, p. 207) have found in cow's milk which had been milked directly into a glass an average of 0.5 mg. of iron to the liter. The percentage of iron in cow's milk is from one-third to one-half less than in human milk. This finding is of importance in the treatment of bottle-fed babies. It may be well to remember that, in addition to other substances in which cow's milk is deficient, a small amount of iron may have to be administered, at least periodically, in order to make up the necessary requirements.

CAMPHORATED OIL IN ACUTE PERITONITIS

Dr. F. Jacoulet (*Paris Médical*, March 23) has found camphorated oil an excellent aid in the treatment of peritonitis. The oil may be injected either subcutaneously or intraperitoneally. For a subcutaneous injection, large amounts of the camphorated oil are necessary, that is, from 30 to 40 cubic centimeters (about 1 or 1 1-4 ounces) of a 10-percent solution in twenty-four hours. For intraperitoneal injections a 1-percent preparation is used in such a way that, after operation for peritonitis and before the abdomen is closed, from 200 to 300 cubic centimeters of sterile camphorated oil is deposited in the abdominal cavity. This may also be introduced through the drain-age-tube after the abdominal wall is closed up

THE TREATMENT OF ENURESIS WITH THYROID GLAND

A. C. D. Furth (*Lancet*, 1911, p. 1619) treated 28 children afflicted with enuresis with gradually increasing doses of thyroid-gland extract, up to a maximum dose of 12 centigrams in twenty-four hours. The remedy was continued for several weeks, and the patients received no other treatment. Of the entire number treated, 2 were cured, 14 improved, and in the others no influence was observed. Among those who were influenced favorably, were especially such whose enuresis dated from birth, and who were in other respects somewhat backward.

ZYMOPOETIC PROPERTIES OF NUCLEIN

Aschernorurzki (*Biochem. Zeitschr.*, Vol. 36; noted in *La Quinzaine Thérapeutique*, Mar. 25, 1912) has found that nucleinic acid injected into the animal organism exercises a distinct influence upon the zymotic power of the cells. This action is more marked after intravenous than after subcutaneous administration. The amylolytic ferments are most markedly influenced. In the brain of animals treated with nuclein the amylolytic power was increased 400 times; in the lungs, the increase was 250 times; in the muscles, 6.4; in the thymus, 2.5.

Sodium nucleinate administered continuously, and often in enormous doses, to animals was not found to exert any harmful action upon the organism.

NUCLEIN IN ERYSIPELAS

M. E. Blumenau, attending physician in the erysipelas-ward of one of the St. Petersburg hospitals (*Vratchebnaya Gazeta*, 1911, No. 45; noted in *La Quinzaine Thérapeutique*, 1912, Mar. 10), has treated 77 cases of erysipelas differently localized, all serious and all occurring in women, with intramuscular injections of a 10-percent solution of sodium nucleinate, employing doses of 1, 2 or 3 cubic centimeters (15, 30 or 45 minims). The injections were repeated every second or third day, and they exerted a decided effect upon the febrile temperature, the same being lowered permanently after the first injection in half of the cases, while at the same time the general condition and pulse improved considerably.

Only in erysipelas of the serpiginous type did often repeated injections of nuclein fail to influence the fever or the course of the disease, and in four cases of septic erysipelas no beneficial effect could be ascertained, all ending fatally.

The remedy never exercised any immediate action upon the local symptoms, appearing to act as a general antitoxic. This does not, however, diminish its utility.

STABILITY OF ALKALOIDAL SOLUTIONS

Langer (*Therapeut. Monatsh.*), lately has been studying the permanency of solutions of scopolamine when dispensed in sterile ampules. He found that the action of these solutions varies considerably, and he was able to demonstrate that this variation is due to the decomposition of the alkaloid, which loses its strength within a comparatively short time. His experiments were carried out on cats' eyes and frogs' hearts, and it was found that after about five months the activity of the solution was reduced to one-third, and in nine months to about one-seventeenth of their former strength.

Here is another evidence of the truth, upon which we have insisted so frequently, that liquid remedial agencies tend to decompose, with a corresponding loss of strength. This is notoriously true of most of the galenic preparations—no wonder it is true of alkaloidal solutions.

The best way to carry and dispense alkaloids and other active principles is in tablet and granule form, the latter being particularly suitable under all conditions of temperature and climate.

A VACCINE FOR PERTUSSIS

Edwin E. Graham (*American Journal of Diseases of Children*, January, 1912, p. 41; noted in *The Archives of Pediatrics*, March, 1912) reports the employment of pertussis-vaccine, prepared from the bacillus of Bordet and Gengou, in the treatment of whooping-cough. The dose at first was small, but 40,000,000 bacilli finally were given every two days, altogether for eight doses. The vaccine was used in 24 cases, and the author believes that his results were sufficiently gratifying to make a more extensive trial of the vaccine advisable. Out of the 24 cases reported, 7 were unchanged in their course, while 17, or 71 percent, apparently were benefited.

PROSTATIC HYPEREMIA AND HYPERESTHESIA

As acute an observer as Lydston could scarcely fail to recognize the existence of prostatic hyperemia and hyperesthesia, and to associate with them the train of symptoms proceeding therefrom. In a paper in *Medical Record* (Feb. 3, 1912) he attributes to this condition the neurasthenias accompanied by a sexual element, physical or psychic. His treatment is the application of silver-nitrate solution to the affected mucosa, and prostatic massage, with hydrotherapy and other means of improving the general condition. Rest of the sexual organs may require temporary resection of the vasa deferentia, and impotence, resection of the vena dorsalis penis. This is the condition for which applications of thymol iodide in oil have proved so effective,

sometimes alternated with a weak silver application. A new suggestion is that of Prof. Thurston, to apply lactic-acid germ suspensions locally.

ON THE ELIMINATION OF DRUGS BY THE SKIN

Hermann Tachau (rev. in *Therapeutische Monatshefte*, 1912, March, p. 206) found, in agreement with former investigations, that iodine, bromine, boron, phenol, salicylic acid, salol, antipyrin, and methylene-blue can, after their ingestion, be demonstrated in the perspiration, although sometimes only in traces. He did not succeed in finding arsenic, iron, benzoic acid, hippuric acid, antifebrin, quinine, chrysophanic acid, or phenolphthalein, albeit his negative results do not speak positively against such an elimination.

The elimination of drugs by the skin is of interest and must be considered in their administration. It is also of importance in connection with the occurrence of certain drug exanthemata such as are observed, particularly, after iodine, bromine, salicylic acid and antipyrin have been taken.

INFLUENCE OF OPIATES UPON RESPIRATION

Von Issekutz (rev. in the *Therapeutische Monatshefte*, 1912, Mar., p. 204), in his investigations concerning the effect of morphine, codeine, dionin, and heroin upon the respiration, found that, in contrast to morphine, codeine, and dionin, the force of the individual respiratory movements is increased by heroin, and that this, therefore, is more adapted to be used as a cough remedy. However, heroin behaves like the other three substances in diminishing the number and volume of the respirations.

MIGRAINE AND AUTOINTOXICATION

Herzfeld (*Journal of the American Medical Association*, 1911, Nov. 18) holds that typical attacks of migraine have their origin in the gastrointestinal tract, and are due to autointoxication caused by the absorption of certain albuminoids, this absorption giving rise to anaphylaxis; and the syndrome known as migraine or hemicrania is now referred to a group of anaphylactic conditions. The author says, based upon personal experience, that during the early stages and in the time of the gastrointestinal disturbance, and during the stage of scotoma, quinine is the remedy *par excellence*, and that it not only is the most effective remedy but may be called specific. However, it must be given early at the onset and in sufficiently large doses. The author usually gives 7 grains, and has rarely found it necessary to repeat the dose.

HYOSCINE-MORPHINE NARCOSIS IN CHILDBIRTH

The February, 1911, number of the *Berliner Klinik* (noted in *Wien. Mediz. Woch.*, 1911, No. 46.) contains the results of observations by Dr. Bruno Bosse in 120 confinements and 150 operative cases, including 25 laparotomies. In the obstetric cases a complete or almost complete narcosis was obtained in 80 percent of those treated. It is interesting to note that expulsive pains were observed in more than 99 percent of the cases, inasmuch as it has been objected to the use of morphine-hyoscine that the combination necessarily diminishes the expulsive efforts of the womb. In like manner the results in operations under morphine-hyoscine narcosis, introducing whenever possible the inhalation-anesthesia, with ether, were so satisfactory that the author pronounces the method as the most humane one, and also as prophylactic against such accidents as are all too frequent without its use.

MAGNESIUM SULPHATE, CARBOLIC ACID, AND SERUM FOR TETANUS

Camus, of Paris, (rev. in *Therapeutische Monatshefte*, 1912, Mar., p. 203), made comparative experiments in tetanized dogs, which he treated with magnesium sulphate, with carbolic acid, and with antitetanic serum, the latter being administered either pure or digested with pepsin. He concludes, from the results obtained, that

magnesium sulphate and phenol exert no influence whatever upon the course of tetanus. Magnesium sulphate reduces momentarily the irritability, but causes dangerous symptoms on being injected into the spinal canal. Phenol does not give rise to by-effects; it possibly has an antiseptic action upon the tetanus bacillus, but has no effect upon the toxin that already has been formed.

A dog that was treated simultaneously with magnesium sulphate and carbolic acid did not live longer than the other animals. The antitetanic serum, which was injected either into the spinal canal, or intravenously or subcutaneously, proved much more effective, since it has a direct action upon the toxin. However, with this remedy the results also were variable.

INFLUENCE OF HIGH ALTITUDES UPON NUTRITION

Von Planta (noted in the *Therapeutische Monatshefte*, March) confirms the general experiences concerning the influence of high altitudes upon metabolism. The latter, he finds, is stimulated, especially in growing individuals, and most in such individuals in whom there exists the greatest deviation in weight from normal. It is claimed that the tendency for the weight to approach the normal becomes manifest, not only in undernourished, but in obese individuals, as well; although this hardly can be attributed solely to the elevation.

GLYCOCOLL AS A DIURETIC

Glaessner reports (*Therapeut. Monatsh.*, Aug., 1911) some experiments with glycocoll. In the course of the research, it was found that the amino acids possess considerable diuretic action. Remembering that such acids are decomposed by the liver, with the formation of urea, it is not surprising that they should act in this manner.

Glycocoll is an aminoacetic acid, and it is the simplest of the substances of this character. Submitted to numerous practical tests, both on healthy and diseased subjects, it was found to be an excellent diuretic, possessing no toxic properties and no disagreeable side-effects.

In one case the average daily amount of water was increased from 1.5 liters to 1.9 liters, and in another case, from 1.2 liters to 1.8 liters; the specific gravity of the urine remaining practically the same throughout. There was a slight increase in the excretion of urea, and a decided increase in the chlorides. A total of 5 Grams of glycocoll was given per day. Good results were obtained by the use of glycocoll in combination with digitalis.

DIRTY MILK AND GASTROINTESTINAL DISEASE

We clip the following from the *Bulletin* of the Chicago Health Department:

"The gastrointestinal diseases, such as cholera infantum, summer complaint, infantile diarrhea, and gastroenteritis, kill hundreds of little babies during each of the hot summer months. Last year during July, August and September there were 1727 such deaths in this city. The pity of it is, the great majority of these deaths were chargeable to carelessness or ignorance; the disease which caused them could have been avoided with proper care.

"One of the commonest causes of gastrointestinal disturbances in infants is the feeding of spoiled milk. By 'spoiled milk' we mean milk which has been exposed to heat, flies or dust, which has been handled in unclean vessels or otherwise exposed to contamination. Obviously the way to prevent the highly fatal gastrointestinal affections is to prevent the spoiling of the milk.

"The things which make milk dirty and dangerous may be briefly summarized as follows:

"At the dairy farm:

1. Diseased cows.
2. Diseased milkers.
3. Diseased handlers.
4. Dirty cows.
5. Dirty cow-barns.
6. Dirty milk-houses.
7. Dirty milkers.
8. Dirty milk-receptacles.
9. Lack of proper cooling.

"In the home:

1. Exposure to flies and dust.
2. Handling in unclean vessels.
3. Failing to keep it cool.

"Of course these facts are known to every physician, but they also should be known to every producer and distributor of milk, and every housewife."

The physician as the guardian of the public health should give these facts the widest possible dissemination. Especially important is the educative work of the country doctor, who comes into direct personal contact with milk producers. Teach them to save their souls through practical cleanliness—and also teach them the damnation of dirt.

SOME ADVANTAGES OF HYOSCINE-MORPHINE ANESTHESIA

Dr. W. Wayne Babcock, in *The Monthly Cyclopedia and Medical Bulletin*, suggests some interesting modifications of the hyoscine-morphine method of anesthesia.

After the second injection of the hyoscine-morphine combination he injects into the bowel an enema consisting of Hoffman's anodyne, 1 ounce; alcohol 1-2 ounce; physiologic salt solution, enough to make 5 ounces. After this the patient is carefully watched and the character of further injections determined by studying his susceptibility. Sufficient narcosis may follow the second injection, especially if the patient be old or debilitated. If the patient can be partially aroused, but is somnolent, a third injection containing from 1-20 to 1-10 grain apomorphine hydrobromide may be given. On the other hand, if the patient is quite wakeful, the third injection may consist of morphine sulphate, 1-6 grain; hyoscine hydrobromide, 1-100 grain; and apomorphine hydrochloride, from 1-20 to 1-10 grain.

Caution: If there is a red, flushed skin, dilated pupils and delirium, the hyoscine is omitted and the morphine and apomorphine is used for the third injection. If the pupils are small and the respiration is slow, the morphine should be omitted from the third; but if the heart is weak and the patient greatly debilitated, the apomorphine should be omitted. The apomorphine is added because it gives complete relaxation permitting of the most extensive operative procedures.

Dr. Babcock emphasizes the importance of watching the patient most closely while under narcotic anesthesia, just as under ether anesthesia. The narcosis lasts from two to eight hours and the patient usually wakens with no recollection of having fallen asleep or of the operation. Using this method, he has first narcotized patients in their own homes and then taken them unconscious to a hospital for operation. One patient was subsequently reconveyed back to her home and awakened there some hours later, entirely ignorant that she had left her bed. This form of anesthesia permits of operation on people who are delirious and upon those who have resisted operation through fear, cowardice or mental perturbation.

For a number of years past Dr. Babcock has performed nearly all his craniotomies and operations upon the brain and cord of patients over 35 years of age with this form of anesthesia, excepting when there was coma as a result of injury. Likewise he has used it in plastic operations on the face, resections of the jaw and tongue, and in many operations upon the pharynx and larynx, as well as in operations upon the thyroid gland. He has also found it satisfactory for younger patients, especially when there is well-marked asthenia. The use of apomorphine suggests itself as of value in association with hyoscine, morphine and cactin.

THE EYE IN EPILEPSY

Among ten cases of epilepsy in which Dr. Bishop McMillen (*Ellingwood's Therapeutist*, April) examined the eyes, abnormal conditions were found in six, and these were marked in four. This is directly in line with the observations made by Dr. George M. Gould at the New York State Colony for Epileptics, at Sonyea, some years ago. Refractive errors are a powerful source of reflex irritation. In every case of epilepsy have an oculist fit the patient with proper spectacles.

Rectal and Axillary Temperature in Heart Diseases

DR. JOZEF POCZOBUT (*Wien. Med. Woch.*, 1910, col. 982) has, in the last five years, made comparative measurements of the temperature in the axilla and the rectum on some 2200 persons, of whom over 300 were children, making in all some 9000 measurements. Of the 2200 persons 70 were healthy. Some of them were tested from two to fifty times, others only once.

In the healthy persons the author found a difference in the respective temperatures of from 0.54 to 1.08° F., the rectal temperature, of course, being the higher. In sick persons the difference ranged from 0° to 3.6° F., and sometimes was negative, being higher in the axilla than in the rectum by from 0.18° to 0.72° F.

The author designates a difference of 0.18° to 0.9° F. as the physiologic, or normal, difference of temperature, which, however, does not always run parallel with the normal course of disease. The difference of 0.9° to 3.6° F. and more is abnormal, or pathologic. A difference of 1.8° F. and more points to an abnormal course of the disease. The author calls a difference of 0° to −0.72° F. paradoxical.

The axillary temperature is taken by carefully inserting the thermometer in the axilla (in children preferably into the inguinal fold) and holding the arm well in the proper position for from ten to fifteen minutes. In the rectum, or in married women in the vagina, the thermometer is held for three minutes.

An abnormal difference of temperature was found in chronic heart diseases, in acute infectious diseases, in acute diseases of the abdominal organs, including peritonitis, and in nervous diseases. The most important investigations of the author were carried on in the first group of diseases, which we are here considering and of which we reproduce the author's results.

An abnormal difference of temperature in the rectum and axilla was found principally in chronic diseases of the heart-muscle, which showed clinically an insufficiency of the muscular action. The difference was rarely higher than 1.8° F., and it was found, often, to persist for months and years.

If an abnormal difference of 1.08° to 1.44° F. rises to a difference of 1.8° to 2.7° F. and more, and if it persists for some time, it points to an aggravation of the symptoms of chronic cardiac insufficiency and renders the prognosis uncertain or unfavorable. If the abnormal difference of temperature diminishes, an improvement in subjective and objective symptoms may also be observed. It is to be noted that temporary variations in difference of temperature may be produced by psychic disturbances.

The author concludes:

1. In organic heart lesions a normal difference of temperature points to compensation, an abnormal difference of temperature to a disturbance of equilibrium or to a beginning insufficiency.

2. The abnormal difference of temperature enables us to make a differential diagnosis between true and false angina pectoris. In the latter the difference of temperature is

within normal limits, or it may be slightly above normal, or low.

3. A differential diagnosis of functional heart neuroses is also rendered possible by observing the comparative temperatures. Such neuroses are especially observed in neurasthenia, in hysteria, in persistent tachycardia. In a pure neurosis we have a difference of temperature which is normal or subnormal, while in organic heart lesions, as we have seen above, the difference of temperature is abnormal.

ACTION OF COLLOIDAL SELENIUM ON CANCEROUS ADENOPATHY

M. Thiroloix employed colloidal selenium in a patient affected with cancer of the tongue, together with adenopathies. He made a number of intravenous injections of five cubic centimeters (minims 75) per dose at intervals of four to five days. The glands softened and puncture gave a neoplastic liquid, in which selenium was found, which permits us to assume a liquefying action of selenium in the presence of cancer. —*Paris Medical*, p .317.

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[Wassermann has recently made extensive experiments with eosin and selenium in the treatment of tumors in mice, complete cure resulting in many instances. The tumors softened, the products of katabolism being absorbed with the production of severe reaction in some cases. In selecting his remedy he followed the methods of Ehrlich in "606." These experiments give promise that a specific for cancer may yet be found.—ED.]

ANIMAL INTELLIGENCE

One afternoon in October, 1883, I came from seeing a patient and walked leisurely in company of another person who went to get the remedies. The sun was burning, the sea-breeze was quite strong and the air was very hot. Coming to the edge of a wood clearing, convenient to lie down, our attention was attracted all at once by the sight of a viper, of the species known as that of Montpelier, and a big green lizard, the two in combat.

We stopped an instant, stupefied at the singular spectacle, watching with interest the adroitness, the fury, and the agility of the two combatants; then we both had the same thought of pursuing them, when the lizard gave up the fight suddenly and turned to the foot of a large mullein growing at a distance of fifteen or twenty paces from the place of combat. Coming to the mullein, the lizard rolled himself against the leaves which grew close to the ground and rubbed his body a number of times against the plant. Then, as if this friction had given him strength or intoxicated him a little, the lizard went back to attack his enemy with a sort of madness. Three times the saurian interrupted the combat, three times, when he seemed a little fatigued, he went to rub himself against the mullein leaves, and three times he returned to take up the fight again more nimbly, more agile, and more ardently. During this episode the viper lay stretched in the sunshine. These observations excited our curiosity more and more and our interest grew. We thought we were dreaming.

To get at the solution of the enigma, we resolved on the following plan. My companion cut down the mullein and carried it away. He executed the act with much precaution, so as not to interrupt the combatants in their fight. But the lizard soon after again made for the mullein, and coming to the place where it had grown but a few minutes before, he seemed disappointed. It then lifted up its head several times, then made several tours around the place, but evidently with every moment lost agility and strength, and a few minutes later made some convulsive movements and expired.

Let me now give the scientific data which I was able to gather for the purpose of explaining this curious phenomenon. Laboulbene, in the article on lizards, in the "Dictionaire Encyclopedique des Sciences Médicales," writes: "Certain species of lizards do not fear, it is said, any serpents." In the same dictionary, under "Serpents," we read: "The venom of the viper, which was analyzed by Lucien Bonapart in 1843, acts feebly and slowly on animals of cold blood, at least when their temperature is

not artificially elevated" (which would augment proportionately their circulation and respiration, which we know to be incomplete). "The small lizards are very sensitive to their [the vipers'] bites."

As to the part of the mullein, in this story, we find it ranged with the garlic, the rue, the radish, the aristolochia serpentaria, the ash, the agrimony, and the walnut as indigenous antivirus plants. The school of Salerno speaks about it. A. Viaud-Grand-Marais assures us that our venom healers (*guerisseurs de virus*) prescribe these plants in the form of medicated wines in their general treatment of venom poisoning. "These various species," he adds, "are very rich in nitrates and carbonate of potassium, in scoparine, in oil, and in allyl sulphide;" and it is said that all these bodies act strongly on the renal secretion, and even on that of the intestine.

According to Blanchon and Delioux de Savignac (see the articles "Molene" and "bouillon-blanc," in "Dictionaire de Dechambre"), the pubescent and very hirsute mulleins have a medicinal affinity with the scrofulariaceæ and solanaceæ, all of which form a natural group. The green leaves of these plants are mucilaginous and emollient, and have a narcotic and sweetish smell analogous to that of honey.

From all the preceding I pretend neither to conclude, or deduce, or conjecture. We can not generalize from one isolated fact. And yet I am disposed to present some questions. Did the poor saurian die from acute poisoning or simply from traumatism? But what did he mean by going four times to the mullein plant? Why did it go with such a zest when it became languid and fatigued? Why, too, did it, after rubbing, go back three times, like an Antæus, to fight more lively, more ardently and more nimbly? Did it go simply to refresh its strength? Or did it come simply to refresh itself in the shade? Or did the lizard come to the mullein to unvenom itself by contact with the leaves? And is, therefore, the mullein a direct or indirect physiologic contra-venom; and the poor lizard went to it as the dog goes instinctively to the nearest water to bathe in it when bitten by a viper? And, again! Did not the lizard come to the mullein simply for the sake of its downy cotton, which acted as a narcotic emollient against its painful parts? And as a last hypothetic resort, may it not all have been a mere coincident, a pure chance? But whatever it was, I have related the facts as they took place and leave them to be commented upon by the perspicacious investigators of nature.—J. DALLAC, in *Repert. Univ. de Med. Dosimetr.*, Vol. 13, p. 78.

X-RAY TREATMENT OF PRURITUS ANI

Rave recommends the treatment of pruritus ani with x-rays. Since 1908 he has succeeded in completely curing ten cases of this torturing disease by this means. Of these ten only one had a recurrence after a year and a half. In obstinate cases the irradiation must be used for about a year but it is best to discontinue it for a time after four weeks' treatment.

During the discussion that followed Botter, Koerti and Israel confirmed the most satisfactory results of this procedure which is so sure of producing a cure that the excision of the anal skin, which was formerly practised in some severe cases, is now held unnecessary and worse than useless, since the trouble has recurred after that radical attempt of cure. Olshausen has seen some cures with mesotan and Sonnenburg has observed good results from irradiation with blue light.—*Muenchener Med. Wochenschrift.*

DIAGNOSIS OF MELANCHOLIA

Dr. B. McMillen says, in *The National Eclectic Medical Association Quarterly* for December, 1909: "If I were asked to diagnose melancholia by asking one single question, that question would be. 'Does the patient accomplish the usual amount of work, and do it as well, and in the usual length of time, physical health and surroundings being considered?' It will be found that the work is always below the normal. If in addition to the above sleep is disturbed, if there is an ache in the back of the neck, if there is a fixed facial expression, it is then evident that we have a case of simple melancholia."

A Practical Method of Prophylactic Immunization Against Tuberculosis

MAY 1, 1912, Dr. Karl von Ruck, of Asheville, North Carolina, presented a report to the Chicago Medical Society on the results from his studies of the problem indicated in the title. Through the kindness of Dr. von Ruck in permitting me to read his manuscript, which will appear in print at an early date, I am in a position to give the following information:

Dr. von Ruck has been occupied with the problem of prophylactic immunization against tuberculosis for more than eight years, and he had never lost sight of it in all his experiences with the curative employment of products of the tubercle bacillus. He had obtained such lasting specific immunity against the tubercle bacillus, and had observed such a permanent effect from the immunization produced in his patients that he long ago became convinced that a sufficient degree of specific immunity could be produced in the non-tuberculous and in the predisposed organism to prevent the harm likely to accrue after prolonged exposure to infection and after unfavorable conditions of life which would reduce the organic resistance to the infection.

In the course of his investigations with various methods of employing extractives of the tubercle bacillus, he finally arrived at a mixture of different protein extractives, to which he added a minute amount of the fatty acids, thus producing a preparation with which he was able to prevent the development of tuberculosis in his experiment animals (guinea pigs) after inoculation with virulent tubercle bacilli sufficient to cause the controls (untreated animals) inoculated in the same manner to succumb to generalized tuberculosis.

For more than fifteen years Dr. von Ruck has discarded the fats and waxes from this therapeutic preparations of the tubercle bacillus, having found that they exert a necrotic action and for the same reason only a quantity, of these bodies sufficient to produce a slight degree of stimulation was included in his prophylactic vaccine.

Having established the effectiveness of his preparation, in the course of several months Dr. von Ruck immunized a total of 339 children, the greater portion of whom were inmates of an orphan asylum in Thomasville, North Carolina, where they could be kept under constant observation. Of the 339 children, 85 were diagnosed as normal, 94 were suspected of being tuberculous, but no distinct signs of the disease could be discovered, while in 160 more or less marked signs of early tuberculous disease were present in the lungs. In all cases a distinct increase in specific immune substances was noted, the particulars of which are given in the paper.

The immunity of all these children to tuberculous infection was estimated by their blood alkalinity, by the power of the serum to agglutinate tubercle bacilli in the test-tube, and by the complement fixation method, as adapted to tuberculosis by Bordet and Gengou. In many cases the opsonic index was determined also.

The general results shown after periods of from three to eight months in immunized tuberculous children were marked by the improvement of their general appearance and nutrition when this had previously been deficient, and this improvement was commented upon by those in charge of the children. Increase in weight was uniform, and especially apparent when it had been markedly below normal. It amounted frequently to ten and went as high as forty pounds, and was therefore in excess of the normal increase of a growing child. In numerous instances the enlarged lymph-glands had diminished in size. The physical signs, wherever they had been present, upon reexamination, were found either to have entirely disappeared or at least indicated an unmistakable improvement.

One of the most important facts that Dr. von Ruck established, was that the blood serum of the children whom he had immunized was capable of dissolving tubercle bacilli mixed with the serum in a test-tube and kept at blood temperature.

These results of Dr. von Ruck's researches are of the most far-reaching importance if they can be substantiated, as I sincerely hope they can be. In fact, I am confident that this will be the case, in view of the careful and conservative work that the author has done for more than twenty years, and in which he has never been led astray by his wishes. If it can be shown that the serum of an immunized person is capable of dissolving tubercle bacilli, the problem of prophylactic immunization against tuberculosis of children and adults that are exposed to infection or are predisposed to tuberculosis is solved. Some years ago von Berhing believed he had obtained this result in calves, but the success of his tuberculous vaccination was not sufficiently marked for practical purposes. I hope that the remedy prepared by Dr. von Ruck will prove to be capable of doing all that is indicated by his report, not only for the sake of the immense benefit that would accrue from such a preparation, but also because of the credit that would belong to an American investigator for having given to the profession and to the world the means of producing untold good to prevent untold harm.

H. J. ACHARD.

Chicago, Ill.

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[In the discussion of Dr. von Ruck's paper, which we were privileged to hear, one speaker said that this discovery promises to be the most important in its influence upon the human race since that of Jenner. If the day comes (and von Ruck's work indicates that it is not far away—perhaps already here) when we can effectually *prevent* tuberculosis by a painless injection of vaccine, the greatest blow possible will have been struck against the Great White Plague. This is of intense interest.—ED.]

HE LIKES DR. ELLINGWOOD'S ARTICLE

CLINICAL MEDICINE to me is of more practical value than any journal I am taking. I usually read it from cover to cover. I am interested in therapeutics and enjoyed Dr. Finley Ellingwood's article on "Lobelia." It is one thing to know a drug and its action, and another thing to know just how to use it in certain conditions. This I think should be brought out when describing drugs for certain conditions.

WM. V. SECKER.

Tolono, Ill.

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[These drug studies are valuable indeed. We are happy to say that we shall have others from Dr. Ellingwood's pen.—ED.]

THE CHOICE OF FORMS OF MEDICINES

The writer started in the practice of medicine when crudity was in vogue. Roots, herbs, barks, seeds, berries, gums, juices, all were used in one form or other and in divers combinations. Many were the hours passed over the old iron mortar and pestle, to complete some extra-choice concoction. The result of an hour's pounding was subjected to much sifting and repounding, and the finished product consigned to the case-receptacle, which in those pioneer times occupied a place along with the many forms, shapes, and sizes of tin and glass-

ware to be found in the old-fashioned saddle-bags.

Sometimes a bark or root was subjected to much slow boiling in water until an extract formed. If the substance possessed purgative property, the mass was subjected to much kneading and rolling and was finally divided into blocks. These portions were made roundish by much gentle fumbling between thumbs and fingers, as an expert was supposed to roll with both sets. This was the method by which we obtained our pills before a pill-machine was supplied. There was not a form or commixture of crude drugs in repute but that the writer concocted it. Watery extract of euonymus, black-walnut, milkweed, and apocynum cannabinum were combined in about equal amount, which combination proved a true Samson when dropsical infiltration was to be removed. Pathologic locks and dams were sprung by this array of therapeutic energy and ascites speedily assuaged.

But further reference to ye olden time medicine need not be made to prove to the present generation that we were conversant with it. We have watched with increasing interest the involvement from crude forms and methods to present-day classical pharmacy and almost exact application of proven remedies.

We want to know the best form of medicine to choose to meet the exigencies of any given case. This has been an engaging question with the writer ever since crude medicine gave place to finished forms. The writer once held that in the treatment of some forms of acute disease medicine in fluid form served more speedily. He so holds now.

Given: Inflammation of stomach. Hot and glary dry mucous membrane; much determination of blood to the viscus, with resultant excitation of local as well as of general nervous system. It was argued that in such condition a galenical exhibited in very dilute form would fall upon a greater area and in consequence would exert ready local influence. Direct energy would be imparted to centers local and from thence to centers of circulations. It was held, further, that a pill, granule or other compressed form might, in cases, be stranded at the bottom of a sulcus, where, on dissolving, if it dissolved at all, energy given out would be circumscribed, and in a case might result in erosion at the point of contact; or, it might, by overirritation, eventuate in paralysis of that particular area, since all or nearly all the energy of the agent must fall within a small compass.

These hypotheses fall short when the unfractuosity of the stomach-walls be admitted into the account. No hard but soluble form would long remain in a stomach-groove, in consequence of constant peristalsis. The vibrant musculature would turn it up and onward in any save a paralyzed stomach-wall.

The solubility of the agent, whether of rapid or of slower degree, stands next in line for consideration. In some forms of disease it becomes necessary to exhibit medicines in a form to give out energy slowly and evenly. This is the case especially when treating certain chronic, or phases of chronic, disease. The influence of the remedial agent employed must last through a definite period, so that every pathologic plane, elevation, recess and cranny may feel its presence. In such case the writer would choose a form that would more nearly harmonize with the above reasoning.

It is proper to consider that with most agents of vegetable derivation, any remedial virtue obtained is owing to certain one or more active principles inherent in crude drug. This fact is too well known to require proof or illustration. Again, certain elements naturally inhere which, if they remain in the finished medicine, hamper the real principles in action and effect, not to admit the fact (in some instances) of producing injurious results.

Drug manufacturers are alive to the truth of these deductions and are exerting and bringing to bear every known devise chemically and pharmaceutically, to the end that remedies given the practician may consist only of the essential elements and in the most compact and most elegant and absolutely stable forms.

To a man who has lived through this evolutionary uplift in therapy, to one who began with crudest means and methods,

the esthetic active-principle forms now available here appeal to him as nearing consummate desideratum.

W. L. LEISTER.

Oakland City, Ind.

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[I have repeatedly been struck by the fact (for fact it is) that the easiest man to convince of the advantages of the active-principle remedies is one who has had the most experience. He *knows* the crudities of the classic galenic forms, and in nine cases out of ten he has lost all the reverence he had for them when he left his medical school. He is "from Missouri"—but willing to be shown. Such a doctor has had guesswork enough. He is now looking for certainties.—ED.]

SAFE AND SANE ANESTHESIA

A great deal has been written on the use of chloroform for anesthesia, and in my opinion and experience it is the safest of all the volatile anesthetics. When trouble occurs, it is usually because the physician or student ignores nature's law and hurries the patient into too sudden submission to unconsciousness. They overlook the fact, or never knew it, that the soul's correlating corpuscular energy must first become unified before it submits to physical unconsciousness. We must recognize that the soul is a partner to each individual corpuscle, and the soul's relation to the spirit of man agrees to submission before physical unconsciousness can take place.

I remember when, in the year 1895, I was to be operated upon for a small fibroma in the mastoid region, how before going on the table I told the doctor to be careful in administering the anesthetic, as I was liable to go into a state of trance, and if they would go slow when inducing unconsciousness they would have no trouble to awaken me. As is usual, the doctor thought he knew so much better than the patient that he paid no attention to my warning, probably considering me a deluded fool. So, instead of being careful and taking plenty of time, they poured on the anesthetic and hurried my soul-force into abrupt submission by the effort of about six able-bodied students, who fell on me and strangled me into unconsciousness. (This happened in a very well-known hospital in New York, and the operator was a man known to us all.) What was the result? I was anesthetized at about 11 a. m. and did not regain physical consciousness until the next day at 2 p. m. I was in the male ward, and the other patients told me that the doctors pried my teeth apart to administer medicine, threw cold water in my face and used other harsh measures to bring me to. My pulse continued regular and good, so they had no fear of my dying, but their efforts were unavailing and I regained consciousness of my own accord.

In *The Literary Digest* of July 29, 1911, there is an article on chloroform, with a comment by Paul Reyneir of the Paris Academy of Medicine. He asserts that there is no danger in chloroform *if properly administered*. I have anesthetized many with chloroform and have never had an accident. I take plenty of time, never allowing the operator to hurry me in the least, as is so frequently the custom. I study my patient and note particularly whether or not he or she may be a psychic. If he is, it is so much easier to anesthetize him and it requires very little chloroform. I place the first finger of my left hand on the carotid, elevate the chin, and proceed to administer the anesthetic very slowly and very carefully, giving the patient plenty of air.

In this manner I have successfully carried patients with all kinds of valvular incompetency through serious operations. I gave the anesthetic to five women in Fort Worth, Texas, who claimed that all previously consulted physicians refused to operate because of cardiac irregularities, but Dr. Chas. O. Hook and I carried them through successfully. Ovarian and tubulous disease made operations imperative. To some of them I give two H-M-C hypodermics two hours apart, putting my patient to sleep in bed. Then I put him on the carriage and wheel him into the operating room, perform the operation and wheel him back again to his room before carefully awakening him. Nine times out of ten

he will ask when the operation is to be performed; and he knows nothing of the dread of the operating room.

The main requirement with chloroform anesthesia is air, plenty of it; the next most important thing is time. Take all the time you need and do not allow the surgeon or anyone else to hurry you. So many times I have seen the surgeon tell the student to hurry up. He is ready, and the student, not knowing any better, crowds on the chloroform and gets himself and everyone else into trouble. I frequently induce complete anesthesia with four drams of chloroform for an operation taking 45 minutes to complete. This, of course, after having administered the two H-M-C tablets earlier in the day.

It is well for every student to study the soul's relationship to the vital force in corpuscular energy, then he will grasp a great principle that will be of inestimable assistance in his medical and surgical work. Man is related to all that *is*, and once you interfere with the harmony existing between physical and spiritual forces, you destroy his relationship to material existence.

Just here I beg to comment upon Johns Hopkins University's activities in studying the soul with reference to nervous diseases. The great trouble and obstacle in this procedure is that they are trying to build a house by beginning at the top of the chimneys instead of at the foundation. There are students in this country who far outclass any to be found abroad. But the old saying that "a prophet is not without honor save in his own country" is only too true. I know of several able men who could do the work that Johns Hopkins requires as well or better than any imported professor. I have for years used this knowledge in my practice.

L. H. FREEDMAN.

Crowell, Tex.

A BILATERAL TUBAL PREGNANCY

About five weeks after the last normal menstrual period occurring in the life of Mrs. N., of V—, Michigan, she was seized with terrific pain all over the lower abdomen, a little worse on the left side. She also began to flow a little, and continued to do so from that time on. For two weeks she continued to have occasional severe pain. Twice consultations were had. At the first one a swelling was found in the posterior cul-de-sac. This was punctured and, blood escaping, it was diagnosed as a hematocele—with the full knowledge on our part that there is practically but one cause of hematocele. There had been no chill or fever to indicate pus formation. After clearing out the clots, this cavity was drained for a few days. Soon the puncture closed up, and the cavity refilled.

In about two weeks the puncture broke open and more blood, now bad-smelling, was discharged. The temperature climbed up, if I remember correctly, to 102° F. Another consultant was now called, and he urged an immediate exploratory laparotomy. This advice was accepted, and the writer was asked to come the next morning to do the operation.

The womb was found to be enlarged to the size of an orange. Everything touching the broad ligaments was grown fast to them. After much teasing the tubes were gotten out. Each was ruptured, one near the fimbriated end and the other in the middle. A well-formed amniotic sac was present on the right side, containing placental material. On the left side a cavity was found behind the broad ligament, and shot in by the adherent bowel. A bloody aqueous fluid and placental material were found in it. Many bad-smelling clots were turned out of each side. The right cavity contained rather more than a pint—as I thought—of bloody fluid; the left side somewhat less. No embryo was demonstrated, but there was no doubt about the extrauterine pregnancy, as both tubes were plainly ruptured.

Only latterly had there been any elevation of temperature.

The cavities were flushed and drained, and the patient repaired. She has made a good recovery.

Twin pregnancies occur once in 89 times, but I can find no statistics showing how frequently ectopic pregnancies are encountered. Montgomery says, "Both tubes

may be pregnant concurrently"; but he reports no cases.

I believe that I have made quite an important find. It occurred in the practice of Dr. H., of V., and was seen by Dr. P., of E., and by Dr. G., of S.

I. N. BRAINARD.

Alma, Mich.

NEW USES FOR CHROMIUM SULPHATE

Having read from time to time during the last two years or so, in THE AMERICAN JOURNAL OF CLINICAL MEDICINE, clinical reports on the therapeutics of chromium sulphate, I decided to procure some of that remedy and give it a trial as soon as opportunity offered. Fortunately it was my lot recently to use this new remedy with good results in two cases, and perhaps THE CLINIC "family" may be interested.

One day last winter, a 6-year-old boy was brought to my office because of a large tumor, on the side of his neck, extending from the larynx to back of the sternomastoid muscle. The parents had consulted one of the prominent surgeons of this city and were told that the only successful treatment was a surgical operation. Greatly dreading having their boy submit to such an ordeal, they concluded to discover whether, perchance, less heroic treatment might not suffice. When the boy was brought to my office, I gave a guarded prognosis and handed the parents enough of the chromium sulphate to last for a month, proportioning the dosage to his age according to Young's rule. I gave the matter no further thought. However, some six weeks later, I happened to meet some of the boy's relations, and they volunteered the information that that tumor had gone down to such a degree that there was very little left of it.

Then, in March, I was called upon to treat a stricture of the urethra of several years' standing, and I found the parts so tender that I had to put the patient under an anesthetic.

Here I will include a parenthetic narrative. I decided to give hyoscine-morphine-cactin a trial for the purpose of inducing anesthesia. But this, instead of producing profound and quiet sleep, threw the man into a violent delirium. At first I attributed this delirium partly to the morphine; but at a later period of the treatment, when I gave him the pure hyoscine, with the expectation of its acting as a hypnotic, I found that that produced the same kind of a delirium. This observation may be of interest also. In my practice, let me add, I have observed that the various solonaceous alkaloids—atropine, hyoscyamine, hyoscine—possess deliriant and hypnotic qualities, varying with the patients. Atropine is generally considered a deliriant, hyoscyamine has intermediate properties, and hyoscine is a hypnotic; but in several patients have I seen atropine to act as a hypnotic, while in the one under consideration hyoscine acted as a deliriant.

To revert. A few days later I decided to put the patient under chloroform and then, with a filiform bougie in the bladder as a guide, to attempt to force a passage through the stricture with a grooved sound threaded onto the filiform bougie. But even then, with the patient under chloroform, the muscular contractions were so great that the bougie slipped out of the bladder and the sound went through into a false passage. I then thought of letting the false passage heal up and afterwards submitting the patient to an external urethrotomy.

Meanwhile, however, the happy idea came to me to try on this patient the tablets of chromium sulphate. So I gave him 4 grains three times a day, and with each dose of the chromium sulphate I had him take one tablet of formin compound No. 2 (containing formin and ammonium benzoate, each grs. 3, and arbutin, gr. 1-2), to keep the urine aseptic. After following this line of treatment, the patient would, once in a while, have a straining spell, and, after the expulsion of a cast of the urethra, would pass urine very freely—in fact the freest in years. I had him keep up this chromium sulphate treatment even after he went to work, which was five weeks after I first had his case in hand.

Now this man needs no operation, nor even the passage of sounds. It would not surprise me if, after a while, chromium

sulphate will be our chief dependence in this class of ailments and radical surgical treatment by means of urethrotomies relegated to the limbo of the past.

FRANK D. PATTERSON.

Pueblo, Colo.

WORMS IN CHILDHOOD

I am of the same opinion as Dr. Walker in regard to worms in infants, as expressed in CLINICAL MEDICINE, page 427. Here is a case in illustration:

In the spring of 1907 a lady came with an infant, three months old, that was vomiting every few minutes, and I decided it to be gastrointestinal irritation. I gave a granule of a well-known worm remover, and in a few minutes the baby vomited three roundworms some four or five inches long. The vomiting stopped at once. Three or four hours later I gave another granule, followed by castor oil, but we did not see any more worms.

In country practice, after mothers begin to teach their babies to eat (and some begin with the age of six months, regardless of advice), we frequently find them infected with worms; but this is the youngest I ever met and the evidence was unmistakable.

J. O. MOORE.

Ledocio, Ky.

VERATRUM VIRIDE IN HEMOPTYSIS

Referring to the article on "The Treatment of Hemoptysis," in the April CLINIC, in which you remark, in commenting on the use of small doses of tincture of veratrum viride, Better use veratrine", permit me to state that after many years of practice and the use of veratrum viride in the different forms of its preparation, I will abide with the use of "Norwood's tincture," with preference against all other preparations. To relieve blood pressure, or as a nerve sedative and calmative, it will meet your expectations every time.

GEORGE D. STANTON.

Stonington, Conn.

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[We have no quarrel with Norwood's tincture. It is a good remedy when procurable of highest quality. But like all other tinctures it is prone to vary greatly in strength and efficiency. Its action is well represented by veratrine, which is a very reliable alkaloid, and can be depended upon. However, I hope that no reader of CLINICAL MEDICINE will fall into the mistake of considering veratrine as *the* alkaloid of veratrum viride. As a matter of fact this plant contains a number of alkaloids, the principal one being cevadine. Veratrine is obtained commercially from asagræa officinalis, or sabadilla. It is a remedy of the utmost value.—ED.]

TAKE NOTES WHEN READING

Having read Dr. B. F. Strong's mention of his notes and where he saved the life of a patient by having made notes of some remedy recommended in CLINICAL MEDICINE, I would suggest that all doctors make notes of important remedies when reading about them in the journals. I have kept records of all good formulas seen in medical journals for twenty years, and often refer to them with fine results. I may, at some future time, send each month to CLINICAL MEDICINE one which I have tried and proven good. Some of them no doubt are familiar to many physicians, but they will be helpful to some in the profession. They have been helpful to me often.

I have all my notebooks indexed, and when I need a prescription for a certain case or disease I can find it all written out in regular formula order, doses, hours to give, and what to give for. I have several large notebooks filled, making it a rule to make notes of all remedies that I think good or which are new to me.

E. E. PHILLIPS.

Oklahoma City, Okla.

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[The doctor's suggestion is good—and bad. It is a splendid idea to collect and index for ready reference all kinds of medical information, especially that relative to diagnosis and treatment; it is bad to get into the habit of using verbatim prescriptions, copied from a book or a notebook, for the uniform treatment of

the different diseases as they present themselves. Fit your remedies to your patients, not your patients to your remedies. Study the nice adaptations of means to ends; saturate yourself with pharmacologic knowledge, and use your notebook to stimulate your idea-factory! That's our idea of the matter—and that is what I think Dr. Phillips really means to advise. Active principles? Of course.—ED.]

PREVENTING THE SPREAD OF TUBERCULOSIS

Theories are often advanced but seldom placed in active operation: If the spread of tuberculosis is due to the dissemination of a germ, then let us attack the enemy in his lair. In order to do this the medical profession must invoke the aid of the state. While a great deal is being done by isolation, there yet remains more that may be done.

Allow me to call to your attention a few salient points which, if followed, may be the means of arresting in part the spread of the disease. These measures I have advocated and preached to my patients for several years, but apparently without success, since owing mainly to pecuniary reasons they are not able to adopt them.

I advocate that when a person dies from tuberculosis, the bed and bedding should be burned. Everything coming in contact with the patient which could not be thoroughly disinfected should be treated in the same manner. The state authorities should here step in—making an appraisement of such goods as should be destroyed and paying for the same. According to the usual custom after a family is broken up possibly by the death of a father or mother from tuberculosis, the goods are divided among the children, and are taken to their respective homes, carrying with them their germs, to be disseminated into new homes and to transmit the dread disease. Frequently there are public sales of goods bought promiscuously by which the disease germs are also spread. The dwelling should be thoroughly disinfected; if this can not be accomplished it should be burned, or if the location does not permit this it should be taken down and burned piecemeal.

I know of a small farm house in which two people lived. The husband died of tuberculosis. In a short time (two years) the wife died of the same disease. A young couple, just married, moved in. Within a year the husband had a severe hemorrhage of the lung, and soon developed phthisis florida. In less than a year the wife was stricken.

I recommended to the owner of the house that he should have it burned. He refused, and it remains today a menace to anyone who may venture to live in it. Instruct the people never to buy articles at auction sales or from second-hand dealers however cheap the goods may be, nor to live in houses that have not been thoroughly disinfected.

Years ago people lived in a more sanitary manner than they do today; carpets were unknown and lace curtains had not entered even into their dreams, the floors were scrubbed two or three times a week, the open fire-places secured good ventilation and the unobstructed windows let in the sunshine.

When we simplify our mode of living and learn the laws which nature has prescribed we shall make another stride forward toward the extermination of this dread disease.

R. B. HOPKINS.

Milton, Del.

[Dr. Hopkins' ideas, which are very excellent, are by no means new. As long ago as 1784, the health board of the city of Naples ordered all clothing and bedding of persons having died of consumption to be burned on the public market. The houses were frequently burned likewise. Two years previously, similar stringent orders had been passed in Spain. In the southern civilized countries the contagiousness of consumption had always been insisted upon, while it was denied almost universally until a few decades ago by physicians living in the northern countries.

As a matter of fact, the "attacking the enemy in his lair," that is, exterminating the germ responsible for tuberculosis, is im-

possible. All that we can do is to limit its dissemination by improving the hygienic and sanitary conditions, by disinfection, and by eliminating all possible sources of danger. The more important and more feasible work that we have to do, to my mind, lies in improving the resistance of the soil. Although the tubercle bacillus is not universally present in nature, as a matter of fact, in most portions of the civilized world, and especially in the cities, an exposure to infection cannot be avoided, and practically everybody is subjected to it at one time or other. It is therefore necessary to increase the resistance of the organism so that an infection shall not "take," that the invaded body can mobilize a sufficient degree of opposition and destroy the invading bacilli.—ED.]

ANSWERS TO GOLDEN SEAL QUESTIONS

1. "Will open woodland answer as well as artificial shade?"

Opinions differ. Most writers favor artificial shading, on the ground that the roots of the trees absorb moisture and use up plant-food. However, if I had the open woodland, I should certainly make use of it, and save the heaviest item of expense.

2. "How far apart should the plants be placed?"

If in rows, the plants should be six inches apart in the rows, and the rows one foot apart. If in beds, 8 inches apart each way.

3. "Will the beds perpetuate themselves, or is it necessary to plant new roots each year, to take the place of the old ones, which mature in three years?"

Plant one-third new beds each year.

4. "When should the plants be set out?"

Usually in May. But they may be planted late in the fall, and left to come up in the spring.

5. "Where can I get a supply of plants?"

Try any of the following: N. B. Curstead, Oliphant Furnace, Pa.; Elmer Clark, Rockport, W. Va.; Dr. H. T. Grime, New Carlisle, Ind.

6. "What is the cost of the plants?"

Impossible to tell. It varies with the market.

J. M. FRENCH.

Milford, Mass.

IS CALOMEL AN INTESTINAL IRRITANT?

Please count me as a supporter of the author of "Obscure Intestinal Disease," printed on page 997 (August) of THE CLINIC of 1911.

Bartholow's "Practice of Medicine," under the head of Ileocolitis, may throw some light on the cause of the green stools described. Bartholow advises against active cholagogs in catarrhs of the small intestine, on account of the irritation they produce. Mercurials are especially mentioned as not beneficial.

Last winter I had occasion to look up the subject on account of a 14-months-old boy—weaned six weeks before and teething—who had returned to his grandparents, after several weeks, visiting part of the time in a malarial district, and also where there had been typhoid fever. First seen the second day of illness. Temperature, 102.5° F.; constipated; stools (following home administration of castoria) pasty, dark, slightly blood-streaked. Aconitine, intestinal antiseptic, and 4 tablets (one an hour) of calomel with aromatics (gr. 1-10), with castor oil or castoria night and morning, were prescribed. That night the fever reached 105.5° F., and the next day the skin was yellow and the stools green. The child was in a stupor, the whole body swollen, especially the head, which was much distorted by bumps and ridges. The hands were held crossed on the breast, the knees drawn up. Every movement elicited a frown or a low moan. Urine was scanty and left a dark stain. Necessity for circumcision threatened.

For four days the condition remained much the same. The temperature, which was taken every hour or two to regulate the giving of the aconitine, showed several remissions and irregular jumps to 105.5° F. At times the eyes would remain for hours fixed on some one spot, at others they would follow any moving object in mute appeal—

for this active talkative youngster now was weaker than a newborn babe.

Glonoin several times proved itself "the little giant life saver." Bismuth and mercury with chalk, saline laxative, and oil were given. Cactin, nuclein, and lithium benzoate were continued during the entire illness. Quinine in camphorated oil was used in place of a bath twice a day. Mellin's food prepared and given as for a 6-months babe was all the food allowed.

The evening of the fifth day a rash was reported, and then calcium sulphide to saturation was ordered. A slight redness and roughness on one leg was all that remained of it at my next morning's call. As noise and light seemed to worry the child, he was from the first kept in a well-ventilated, warm, dark room. He began to improve on the calcium sulphide, but if it was not pushed to saturation he would grow worse. If the room was not well ventilated a cough developed, so, as soon as possible, he was kept all day in the open in his buggy.

The recovery was protracted—four weeks with little or no fever after the calcium sulphide was given—before he was on his feet again.

Calomel in this case proved a violent irritant. In another case, many years ago, I have always believed it caused the death of a 9-year-old boy in the fourth week of typhoid fever. At the crisis, on the night of the twenty-first day of fever, the parents became frightened and sent for an old doctor who was in practice years before I was born. By the time he reached the house and I met him there the patient was doing as well as possible, so the family could see for themselves, and so the old doctor told them, and nothing but a satisfactory recovery was predicted. But while I pleaded to "let well enough alone", the parents insisted, and to please them, the old doctor gave five 1-grain doses of calomel at one-hour intervals. He also gave "curds and whey" prepared with his new tablets.

The next day the patient was jaundiced. Extreme depression of the vital forces with green stools containing white curds showed intestinal irritation, and I sent for the doctor to relieve me of the case. He laughed at the idea of there being any more harm in calomel than in flour; said he had taken as much as that nailkegful (pointing to one in the yard) in his day; and to prove it—since it had brought away that green stuff—he ordered the 5 grains repeated the next day. The morning after that the boy died, convulsions ending the scene, which looked to me like corrosive-chloride poisoning.

For the same reason that I delight in the alkaloids, I dislike and seldom give calomel, salol or other remedies which may decompose in the stomach or intestines and form poisons under uncertain conditions.

Two cases of sudden death resembling corrosive-chloride poisoning following the taking of calomel as a home remedy the evening before have come under my observation.

Salivation is the last thing I fear in giving calomel.

I realize that this is contrary to the ideas of CLINICAL MEDICINE, but its editors are fair and believe in independent observation and thought. O. E. W. S.

——, Florida.

[While this interesting article refers to a paper published months ago, it is about a subject in which we are all interested, so we refuse to apologize for printing it, though we regret that it is so late. Our own opinion on the use of calomel is a matter of record. We believe in it. We believe in "small doses frequently repeated." We believe in following it up with effervescent magnesium sulphate, to eliminate any source of subsequent irritation, giving the latter to "effect." Thus given, in indicated cases, it almost invariably proves of benefit. It's a great summer remedy for children (and for older people too), and in aromatic-tablet form should be in every doctor's medicine-case *right now*, between the bottle of sulphocarbolates and the bottle of aconitine. That's our platform on "calomel."—ED.]

PLAN FOR THE DOCTORS' "HOME"

That "home" for aged and sick physicians and their wives, like many other things of like import, is a hard thing to get. I have

thought the matter over again and again, in years past, and, like many of my craft, have failed to arrive at any conclusive plan. This was previous to my failing health, while I was full of vim and brooked no defeat.

I have been in the active practice of medicine for thirty-five years, have been frugal, and have never debauched, have earned a great deal of money, but have been a poor collector. I have never made a bill of over $150 on one case in my life, and many of my accounts never have been collected. When a man made a "poor mouth" I simply cancelled his account, and let him off. Now I find myself old and poor in pocket, but I have managed to raise and partially to school my little family, not as well as I should like to have done, but enough to get the youngsters through life, if they have an equal show.

The old song runs, "We want but little here below, nor want that little long." But how is this little to be raised? This is the question staring us in the face; and who is going to furnish it to us poor, old, worn-out and sick veterans of the medical profession?

Berger, of Wisconsin, says socialism will remedy all these evils, will feed and clothe the hungry and naked, and provide comfortable homes for the working and producing classes. Will that cover us? I think it will. But many have said: "You doctors do not produce anything, neither do you work." But methinks that, if *they* would (and it were possible for them to) put on our boots and spend only one week on the anxious seat that we often occupy, watching and administering to a poor, sick piece of humanity and if they had a particle of humanity in them, they would have to face about and charge to our defense.

But this is off the subject. What is to be done with our aged, sick and worn-out doctors and their wives? I believe that Victor Berger's plan is the one to be adopted, this being something in the nature of a pension. The plan covers all producing individuals—or, rather those who have been producers—after they have arrived at a certain age, 60 I believe. If they do not have an income sufficient to maintain them, an amount sufficient to keep them in respectability will be allowed them weekly or monthly, as the case may be.

This would be my plan, and it would be far superior to the physicians organizing a closed circle for their own associates. It would be easier on the medical fraternity, and besides would give, or rather compel, a large number of our former clients, who could not or would not render their dues, to minister to their poor, old, worn-out slaves a few well-earned pleasures on their lonely journey to the grave.

Z. T. DODSON.

Cleveland, Wash.

THE GOVERNMENT SHOULD PROVIDE HOMES

I, too, have often wondered why homes have not been established for physicians who have spent the best part of their lives in the service of the people, and especially those (and that includes nearly all) who have not succeeded in laying up a competency with which to keep them in their declining years, when they can no longer do the work.

I believe it is the duty of the government —both state and national—to provide a home for the old, faithful, worn-out physician. And why not? The government provides homes for its soldiers, and who can say that the soldier has done more for the whole people than the physician? While under our system it is necessary to have soldiers, yet, could we have efficient, military service if it were not for the physician? The applicant for military service must first pass a medical examination before he can enter the service, and without examining physicians we should have a sorry lot of soldiers. This outside their direct services in actual war.

The physician is the first to greet man in this world, and the last to see him depart this life; it is he who can do for the people that which no other can do, and many times that which no other *would* do. He ever is looked up to in time of trouble, and when others are fleeing from disease and

pestilence, the physician stays at his post fighting for the people, many times losing his own life in his endeavor to snatch others from the jaws of death.

I think it not only right but the duty of the government to see that the physician is taken care of in his old days when he can no longer care for himself. Generals at whose orders thousands have perished are retired on part or full pay, are pensioned for life, and have a home provided for them while they live, and a monument to their memory when they die. Why not do the same thing by those who give their lives for others that they might live and enjoy life.

JOSHUA G. ELLIS.

Cerro Gordo, Ill.

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[From our point of view, Doctor, such state-endowed institutions certainly seem very desirable; but what would other citizens of the republic say? Every man who does useful work contributes his share to the common welfare, and is entitled to his share of the benefits. Society as a whole can not provide "homes" for the members of every trade and profession. Perhaps sometime, when the long-dreamed-of social millenium is actually here, even this may be possible—but not now. No, today we must "fend" for ourselves. We must do as the trade-unions and fraternal societies do.

If we, the doctors, want such institutions we must make up our minds to supply the money out of our own pockets. The money *can* be raised, provided we *all* take an interest in the matter. And the first and essential thing is an *organization* which will make it a business to construct the essential machinery, collect the funds, and provide men and methods to build and to maintain such an institution or series of institutions. I can't do it alone. Neither can *you*, nor any small group of men. All we can do is to start the ball rolling, and keeping it going till it gathers the essential force about it. I want to see the American Medical Association interested. Yet there may be better media than that association. If there are, we want to know about them, and that's why we are trying to arouse our great "family."—ED.]

THAT HOME FOR AGED PHYSICIANS

It does seem strange that we, as physicians, do not provide a haven of rest for those among us who are becoming decrepit with age or enfeebled by disease.

As citizens, there is no other profession so largely represented as directors of and contributors to charity institutions of all kinds. No profession does so much charity work as ours, yet we sit idly by and wait for the other fellow to start things; or depend on saving for the rainy day or getting into the homes of some of the orders of which we may happen to be members.

The latter course would be a pleasant future to me, but far sweeter would it be if I could look into the far distance and see myself discussing this or that treatment or relating personal experiences or proudly enlarging on how well I collected some nice fee. Such would be as sweet to me as fighting over with their comrades battles seems to be to veterans in our soldiers' homes.

It seems to me that the American Medical Association, with all of its good and excellent work and large resources, should take this important matter up and act at once.

For one, I shall place this timely topic before our County Society and support a resolution recommending some such action by the national association. You do the same, and we may see results.

F. E. MCCANN.

Franklin, Ky.

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[Dr. McCann proposes to do the practical thing—go first to the local society. If this sanitarium-plan could be discussed widely by the local organizations and resolutions enough passed, pressure could be brought to bear upon the American Medical Association, or if this body failed to take action, sentiment could be crystallized for the establishment of a special body to

take up the work. I hope others will follow Dr. McCann's suggestion.—ED.]

IN RE "BOUQUETS"

One of our New York correspondents remarks on the fact that some of the CLINIC "family" are "tossing large bouquets" at us. He advises us, however, not to buy a larger-sized hat for the present, for the reason that the "muckraker" may drop in at any time. "Sometimes," the doctor adds, "at the meeting of our medical society I pass around a copy of my CLINICAL MEDICINE, and then someone will snarl, 'If I should talk like that, I should expect an early invitation to join the Ananias Club.' Well, anyhow, let each one be convinced that he's right, then do his level best, and rest assured he will receive his reward."

Doctor, do not believe for one moment that we are in the habit of buying hats too large for our heads. We are altogether too busy to contract megalocephalia—too desirous of accomplishing things to have time to throw bouquets at ourselves! If you will look over the pages of this journal carefully, we are sure you will find that the bouquets you speak of are being thrown at us by men who at last are able to secure definite therapeutic results. Were we to publish a tithe of the complimentary letters received, we might, with a show of justice, be accused of self-laudation. Our files are filled to overflowing with communications describing the successes obtained by practicians with the active principles employed along lines laid down by us. Success in practice depends, first, upon the man himself; second, upon his recognition of the basal pathologic conditions present in the patient; and, third, their correction by administering positively and evenly active remedial agents in mathematically correct dosage.

Morphine is unquestionably a most useful alkaloid, but the physician who would give morphine to a somnolent patient would not be likely to arouse him; and a physician trying to give morphine from the bottle by rule of thumb would be very likely to encounter an accident or two.

Knowing definitely the effect of a remedial agent, the man who diagnoses closely and knows something of the body-chemistry does not find it difficult to give the right remedy for the conditions to be met. Hence, naturally, he achieves successes impossible of attainment by old-fashioned methods. Every individual who has advanced some new idea, we well know, has been ridiculed. If anybody had told you, even as recently as five years ago, that a flock of winged men would be flying, for hours at a time, over the city of Chicago, you would have thought that person a "fit subject for membership in the Ananias Club." Notwithstanding, numbers of airmen have been flying; and within five years, it is safe to predict, hundreds if not thousands of aviators will be making their way above our heads from city to city.

And just so surely and as safely all intelligent physicians of the future will use the active principles and practise precise and definite therapeutic methods. Someone *must* go first—we started to march, and already a great army goes forward with us. Fall in, Doctor.

THE COMPENSATIONS OF CALAMITY—THE LESSON IN THE LOSS OF THE TITANIC*

At a service held in the Ravenswood Methodist Episcopal church, the Rev. A. Scott Hyde preached on "The Religion of Calamity," using as his theme the loss of the Titanic. There was so much to inspire and help in this noble discourse, that I have taken the liberty of condensing and transcribing some of it for the good of THE CLINIC "family." Dr. Hyde fittingly said:

The heroism of the men in assisting the women and children from the ill-fated steamer will go down into history. They have done great honor to the manhood of the race. Every disaster has its terror, and almost every disaster reveals superb heroes and heroines. And no one imagined they were around at all. In the daylight of pleasure their real worth is concealed. In the midnight of tragic gloom they shed a luster that will out-burn the stars.

This horrible catastrophe has made tender every heart, opened the wells of sympathy, and bound

*Abstracted by W. C. Abbott, M. D.

the nations together in one common sorrow. A thousand lessons have suddenly leaped out of the unseen to smite our senses and make us think seriously of the deeper problems of life. It is as though God himself had thundered from the skies and aroused every soul to action. It is needless to say that so great a crisis in human experience will have an influence for good upon the race.

Dr. Hyde tells us that it is because of the limitations of our knowledgle that we are unable to see evil only in this great catastrophe. Could we see all things from the angle of vision of the Father, then our feelings would change. Certain it is that the loss of this great ship has called men to greater faith and holier living. As the men on the doomed ship were sent to their knees, so all men have been called to prayer. Put a man in a tight place and he will pray. Let him feel his life slipping away from him and he will pray and be glad to be prayed for. It is the natural thing—as natural for the soul to pray as it is for the body to use the ears to hear, the eyes to see, or the hand to touch.

Dr. Hyde's discussion of the mission of pain and sorrow especially appealed to me. It is illuminating. He said:

Consider, if you please, the place of pain and sorrow in human experience. It has been said "that a world without pain would be a world without warning and progress." Through the ages pain has been a schoolmaster to make man more intelligent and better acquainted with the laws of nature. Experience is often a bitter teacher, but it is the best teacher.

The San Francisco earthquake razes man's buildings to the ground; but out of the ashes rise stronger and more substantial ones. Every disaster on land and sea has been turned to good account in safeguarding human life. The sinking of the Titanic, with its attendant loss of life, is an everlasting protest against the sacrificing of the safety of men and women to luxury and speed. More stringent transportation laws will be enacted, and all vessels will be placed under more rigid inspection. Every new pain is a new stimulant to thought and invention. Without pain there can be no progress.

The world is constantly profiting by the mistakes of others. One vessel flounders upon the rocks, and thereafter a lighthouse is erected to guide all ships safely past the dangerous shoals. Man learns the power of lightning by the destruction it has wrought. At once he sets bounds about it, and electricity becomes his servant rather than his destroyer. One man swallows a deadly poison, henceforth it becomes a useful drug for the alleviation of suffering. And this is the way of all progress, up through numerous perils and blunders toward universal good.

John Stuart Mill believed that he could have made a better world than this. But this undoubtedly is the best world that God could have made, and the proof of it is, if God could have made a better world than this He would have done so. Why not make a world where the people are always well and are eternal strangers to pain and sorrow? Why devastating storms, and not everlasting summer zephyrs? Why not have the harvests chase each other without fatiguing toil? Why the hard struggle, instead of a life of comfort and ease? Why? Because character is the greatest and grandest thing in the world, and character is the resultant of clash and change.

Character is an achievement wrought out of the severest struggles. Some of the rarest, most fragrant and most beautiful flowers I have ever seen were gathered near the summit of Pike's Peak, 14,000 feet above sea level. The botanist accounts for their rare beauty by the hardships they have experienced. Their sparkle is the gleam of the ice-age, their loveliness that of the eternal snows on whose bosom they sprang. They caught their royal blue while dizzy peaks thrust them into the awful sky; they are so firm because the rock on which they grew has got into them; they are so sensitive because they trembled so long on the precipice. They are the children of night and winter, the nurslings of blizzards, cataracts, glaciers, and avalanches perfected their beauty. And just so will the sanctified struggles of life perfect character, and adorn it with heavenly virtues.

He must be blind, indeed, who cannot see that the disaster which befell the Titanic has its compensations and its noble consolations even for those whose hearts have been the most deeply rent. Many precious lives have been lost, and the sufferings resulting therefrom are great, but love has blazed forth with a new and brighter luster, and unflinching courage gives added strength and dignity to human life. All honor to those, our fellow creatures, who in the hour of frightful testing proved that man is not base but fine, and that heroism is not an idle dream but a force in human character which will assert itself in the crucial hour.

Sleep softly in your ocean bed,
Ye brave who dared to die!
Your fathers, who at Shiloh bled,
Accept your company.

Ye sons of warriors, lightly rest—
Daughters of pioneers!
Heroes freeborn, who chose the best,
Not tears for you, but cheers!

Lovers of life, who life could give,
Sleep softly where ye lie!
Ours be the vigil! Help us live,
Who teach us how to die.

THE ESCHAROTIC TREATMENT OF CANCEROUS AND OTHER GROWTHS

In my article in the February number, page 177, I expressed the hope that many physicians might be induced to try my escharotic treatment for the cure of external cancer; for the family physician is the first one to be consulted by those developing external cancer, and mostly he meets them at the time when cure can yet

be effected. Now I will adduce a few cases from practice.

Ten or more years ago a Mr. H., of Clearfield County, Pa., wired me to come to him at once. Arriving there, I found that he had an epithelial cancer of the cauliflower variety, three inches in diameter, and located over the upper part of the sternum; the profuse discharge emitting a horrible odor that permeated the whole house. The patient was eighty years old and had been afflicted seven years. Cachexia was marked, he was quite feeble, and he had lost thirty pounds in weight during the last year.

It was arranged that the patient come to my place, Beech Creek, for treatment, though I made no promises. After having made the second application, the man got, as he said, "homesick," and nothing would induce him to stay. I applied the zinc treatment for the third time and told him to leave it on ten hours, or longer if he could endure it (at that time I was not using cocaine), and then poultice with mashed carrots until the dead tissue dropped out, when he should let me know. In twelve days the man wired me to come. I learned that he had left the zinc on for twenty-four hours, and the result was beyond all expectations. I found the sternum bared, and the surrounding tissues looked healthy. The sore healed kindly, and when the man came to my office a month later he had gained in weight and was much stronger. Six months later he had regained his normal weight. Three years after that he died from the infirmities of old age. There was no recurrence, showing that I had destroyed the bottom-cells of the growth.

Case 2. Mrs. M., from Center County, Pa., consulted me about a sore on her forehead, located on the frontal bone, one inch above the right eye. She stated that it started from a pimple three years ago, and that a year ago she had it removed by a surgeon, but that in six months it returned and then grew very rapidly. This cancer, which was one and one-half inches in diameter, I destroyed by one application, left on ten hours. I told her to return when the dead tissue sloughed away. In nine days she returned, and I found a spot of unhealthy tissue about the size of a silver dime. I wrapped some absorbent cotton around the end of a pine probe the size of a match stick, dipped it in zinc chloride, liquefied this by exposure to the air, and then held it on the sore for nearly thirty minutes. Four weeks after, she wrote me that the sore was entirely healed, and left very little scar. This was seven years ago, and there has been no recurrence.

If any physician wishes to test the powerful caustic action of the zinc chloride, follow the instructions as given in this case and apply it to denuded tissue. If sufficient cocaine is used the action will be painless. I always saturate a cloth with a 10-percent solution of cocaine and apply it to the part twenty minutes before applying the zinc. Sometimes I apply the small crystals.

Case 3. Mrs. S., of Clinton County, Pa., had a cystic (benign) tumor located just at the side of the spine, at the junction of the lumbar and the dorsal regions. It was about three inches in diameter, and it inconvenienced her very much in adjusting her clothing, also annoying her when leaning against the back of a chair. She consulted a surgeon, who wanted a fee of twenty-five dollars for removing it. Then she consulted me, and I named a fee of fifty dollars to remove it without the use of the knife. She readily consented to pay the charge.

This is the way I removed the tumor: I first moistened the skin well with nitric acid, then applied a mass made as follows: Equal parts of zinc chloride, potassium chlorate, and pulverized sanguinaria were put on a slab and triturated with a steel knife, without water, until a soft mass resulted, and this was stiffened with flour to the proper consistency to hold it in position. Then I added enough cocaine hydrochloride (small crystals) to make the caustic action painless, dipping my finger in flour and kneading the crystals into the mass.

The first application opened the cyst. After curetting, I packed the cavity with the zinc mass, leaving it in thirty minutes, which I considered sufficient for a cure. The next day the woman paid me and de-

parted. About a month later she reported that she was entirely cured.

I mention the fee in this case, to show how people dread the knife. This woman was willing to pay double the surgeon's fee to have it removed with drugs.

Case 4. Mrs. F., from Clearfield County, came to Beech Creek and consulted me about a tumor located above her right scapula. It annoyed her very much when lying on her back and when leaning against the back of a chair. I recognized it at once as a sebaceous tumor.

I operated upon this tumor the same as I did for the cyst, only that I omitted the sanguinaria in the mass, and instead of packing the cavity with the zinc-potash mass, after curetting, I used equal parts of the zinc chloride and potassium chlorate, dipping a cotton-covered end of a pine probe, the size of a match stick, in the liquid and brushing the wound well for five minutes. In three weeks she reported that the sore was healed and that no trace of the tumor was left.

The last two cases of benign tumors I have reported to show how easily they can be removed by the escharotic method.

J. E. TIBBINS.

To the foregoing communication written by my father I will add a little to show that I also have used it with good success.

I, myself, was graduated in 1905 and returned home somewhat skeptical concerning the escharotic method of treatment, having been taught by one of our greatest surgeons that the use of the knife was the only way of managing cancer. I started out by removing several benign tumors, but later removed a number of malignant tumors.

My father has already pointed out that the family physician is the first one to be consulted, which we know to be true. How many cases of this dread disease could be saved if every physician would remove every mole, wart or benign tumor when first consulted. This I make a rule in my practice. If a patient consults me in regard to a mole or wart that suddenly shows signs of enlarging or inflammation I suggest immediate removal. And the people usually want it removed by the escharotic method, dreading operation.

P. MCDOWELL TIBBINS.

Beech Creek, Pa.

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[All this is very interesting. The use of escharotic pastes has certain advantages in the case of epithelioma, but we should hesitate to employ them for benign growths accessible to the knife. There is little reason to fear a clean surgical operation, and the danger from inflammatory reaction, infection and overstimulation of the tumor-cells is not to be feared after excision, as it certainly may be feared when these intensely irritant caustic pastes are applied. Educate your clients to the advantages and simplicity of modern surgery—and learn to do the simple operations yourself.—ED.]

CESAREAN SECTION FIRST DONE IN AMERICA

Dr. John L. Richmond, at Newtown, Ohio, a few miles from Cincinnati, on April 22, 1827, made the first recorded cesarean section in this country. The matter has been most elaborately worked up from all points by Dr. Otto Juettner, of Cincinnati, in an elaborate address recently delivered at Newtown and published in *The Cincinnati Lancet-Clinic*, last year.

Dr. Richmond's patient was a primipara who lived in a log hut hastily thrown together for immediate occupation and unchinked. At the time of operation it was surrounded by a raging flood from both the Ohio and the Little Miami rivers. The hour was midnight and his sole assistant was a lone woman, whose entire attention was taken up with holding the candle and protecting it with a blanket so the wind would not blow it out. The operation was favorable to the mother, but the child was lost. Richmond reported this case in *Drake's Western Journal of the Medical and Physical Sciences*, Vol. iii, 1830, p. 435, and it is quoted by Dr. Juettner, in his address, in its entirety.

Dr. Richmond was graduated from the Medical College of Ohio, in its first class, in 1822. He practised and preached in Newtown, for he was also a Baptist minister.

He rendered much signal service in the cholera epidemic of 1831, contracting the disease himself. After recovery, being in shattered health, he removed to Indiana, where he lived in Pendleton, Indianapolis, and in Covington, at which latter city he died in 1855, lying buried in Springdale cemetery, Lafayette, Indiana. Much of the foregoing information was obtained from his granddaughter, who is now living in London, the wife of the American consul. In April, this year, there was a gathering of medical men in Newtown, placing a tablet to the memory of Richmond, in memory of his great work there performed.

E. S. McKee.

Cincinnati, O.

"MOTHERHOOD"

Enclosed please find $1.00 for twenty copies of "Motherhood." I do not recollect having seen a higher tribute to maternity for years, and the face of the mother is so sweet, and the smile so realistic, that it calls to memory a few lines in "Four Epochs of Life," by Elizabeth Hamilton-Muncie, M. D., Ph. M., which I quote:

The Second Honeymoon

When baby comes! God make me good,
And rich in grace of motherhood.
Make white this woman's soul of mine
And meet for this great gift of Thine.
In that glad time.

The photographer might have granted us a peep at baby's face; yet we can judge of that from the noble features of the mother.

My daughter and I are going to present "Motherhood" to each new mother during the coming year.

Theo. F. Johnson, M. D.

Perry, Ia.

[We still have a few copies of "Motherhood," which we shall be very glad to send to our readers at 5 cents a copy.—Ed.]

MATERNAL LOVE

By G. Henri Bogart, M. D., Paris, Ill.

Wouldst paint the Madonna's glad glory
Of motherhood's glamorous grace?
Then need you a model whose story
Is writ like a book in her face—
A face filled with love, joy and gladness,
Awe, wonder, surprise, and these blent
With peace, free from surmise of sadness,
Confidingly placid, content.

The face such emotion expresses
One seance as model may yield;
When first she her firstborn caresses,
Then mother-love, rapturous, may wield
The power to show the soul gleaming
Through features, mortality's mold,
As clouds in the sunset-glow gleaming
Are tinctured in purple and gold.

[This poem was inspired by the picture called "Motherhood", which was used as the frontispiece to Clinical Medicine last month.—Ed.]

THE DOCTOR'S LIBRARY

While Clinical Medicine brings to its readers a wealth of useful information of the most varied character, it is manifestly impossible to deal with every problem that may confront the general practitioner, and, therefore, the need of good textbooks has repeatedly been insisted upon, both editorially and by our contributors. Textbooks have the purpose of presenting, in a condensed form, the sum total of the knowledge which we possess upon various subjects, and they are of value in the degree in which they make this knowledge presentable and usable.

Among the books which our readers should possess for constant reference in their daily work, stand foremost the textbooks of "Alkaloidal Therapeutics" and of "Alkaloidal Practice" by Doctors Waugh and Abbott. The former has recently appeared in a new and revised edition, and has been received and commented upon very favorably in the medical press. It is really an encyclopedia of facts regarding alkaloidal medication. The other, which in its present edition is but a very few years old, is still entirely up to date. These volumes sell at $5.00 each, and will be found to be worth many times the purchase price.

One of the earliest, and still one of the most acceptable guides to alkaloidal medication is the work by Shaller, which has

appeared in many editions, and which is just what its title indicates, a "Guide", or a leader, to introduce the physician to that mode of treatment which was first elaborated by the Belgian physician Burggraeve. It sells for $1.00, and should be on every physician's desk, for constant and ready reference.

Dr. Radue's "Manual of Treatment of Diseases of Children" and Dr. Candler's "Every-Day Diseases of Children and Their Proper Treatment" were both written from the large personal experience of the authors and present their subjects in a remarkably useful form. The price of each is $1.00.

The latest volume in this active-principle series is Redfield's "Compend of the Active Principles." This is not only a résumé of the most valuable remedies of this class but a record of practical clinical experience as well. Prof. Redfield has studied these drugs and used them extensively, and "knows the game." Price $1.00.

Finally we mention Dr. Lanphear's book on "Surgical Therapeutics," which covers a field that is hardly touched upon in the standard surgical textbooks, taking up, as it does, subjects which are usually passed over with bare mention. Dr. Lanphear's book must be seen in order to be appreciated, and will be found of great service to the general practitioner. We urge its purchase.

We are, of course, far from suggesting that the books which we have just mentioned comprise a physician's library or present all that is worth knowing. Our book-review department bears witness that many excellent new books are constantly being published, which are of use and of interest, and the study of which will help the physician in his daily work and will aid him in rounding out his knowledge. We stand ready to supply our readers at the most moderate rates with all books and magazines wanted, not only medical books, but also those on general subjects. We also take subscriptions for other journals, medical or lay—in fact, we will supply the doctor with all of his reading matter. Tell your needs to the Subscription Department of THE AMERICAN JOURNAL OF CLINICAL MEDICINE, Ravenswood Station, Chicago. You will be served well.

DRINKING WITH MEALS IS BENEFICIAL

I usually drink water on all occasions, except on the very hottest days of summer, when I have made it a point to drink buttermilk. I tell my patients that water is the ideal beverage. When I find a woman who is badly constipated, I always ask her what she drinks at mealtime. As a rule she will say tea, and that as strong as she can get it. Such people seldom drink plain water.

Last night, while returning home from seeing a patient, I met a man on the street-car, who began telling me how badly constipated he is. I then asked him what he drinks for his meals and he very frankly told me tea as strong as he could get it. He said he seldom took a drink of water. I told him to stop his tea and begin this very morning with a pint of water as hot as he could bear it, about an hour before breakfast. I also told him to drink plenty of water—but not ice water—during the day, and to continue that way right along and leave off his senseless tea drinking.

There is nothing that flushes the kidneys so well as an abundant consumption of good pure water, and, as I have often told my patients, nature has undoubtedly supplied us with the best combination of elements for a beverage, and I believe in using it. In the course of our existence we take into our systems a conglomerated mass of food-stuffs. That mass must be saturated with the digestive juices, and in doing so some heat has been evolved, and some of the water of our bodies has been evaporated by the process; but too many people forget about that and consequently do not drink enough to replace that which has passed out of the system.

Only yesterday a lady complained of severe burning on urinating, and yet she told me how dearly she did love strong tea. I gave her a little harmless tablet to put into a pint of hot water, to drink every four hours, beginning at 10 o'clock and continue until 10 last night, and when

I saw her this morning she was so much better that she did not notice any pain or smarting on micturating when she arose at about 6 o'clock. She also said she did not have the peculiar discomfort about the genitalia that she had experienced for some time. Now don't think of any specific trouble, for she has nothing of the kind. I examined her for that.

Lest the reader consider me a hydrotherapist, I will state that I am a graduate of a regular school, but I use my judgment as to the remedy indicated.

I must tell of a case I had about twelve years ago. A medical student was employed during the summer vacation, and his wife was in the habit of serving dinner at half past five every day. These dinners consisted of hot meats and two or three kinds of vegetables, including pie or cake, or both. The young fellow being very active and hungry usually digested this mass without any trouble. The wife, on the contrary, while doing little work, but having eaten nothing since breakfast, was almost famished and in a very nervous state, hence in no condition for such a heavy meal. Then, when she had an attack of indigestion, the husband would call in one of his professors, who liked to see suffering humanity eased at once and go to sleep for several hours, regardless of bad after-effects.

On one of these occasions his professor could not respond, and I was called. Arriving at the abode of suffering, I found the lady lying in bed, face down, both arms clasped under her abdomen, and suffering the torments of the damned. Glancing about the room I discovered on the dresser a half dozen 2-ounce vials containing different kinds of sedatives that had been prescribed by the energetic professor. These potions would thoroughly narcotize the ailing woman, but after that she would be unfit for anything for some two or three days. Thus the professor had treated her time and again.

On getting my bearing, I called for a quart of quite warm water, put this into a fountain-syringe, together with one intestinal-antiseptic tablet, and proceeded to give her an enema. As the warm water flowed gently into her aching and colicky colon, the woman soon became easy; and she was sound asleep before I left the house. That simple treatment made for me firm friends out of that medical student and his wife. From that time on I did their practice.

A. W. Bleil.

Kansas City, Mo.

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[If you have the back numbers of Clinical Medicine (you should have them bound for reference—send for an index), read the editorial on "Drinking Water with Meals," on page 1027, October, 1911, number. It has been pretty clearly shown by Hawk and others that instead of doing harm the moderate consumption of water at meal-times does good. It improves instead of impairing digestion, helps the intestinal canal to do its full duty, and lessens the absorption of the intestinal poisons. There are the very best of scientific reasons for encouraging the more free use of water. Dr. Bleil is right.—Ed.]

MY STORK SHOWER

By Genevieve Stuart Beckham, M. D.

Dear friends, I'll now attempt in rhyme
  My thanks to voice, this hour,
For all that you have done for me
  In giving this stork shower.

The promptings of your kindly hearts
  Are manifested here
In these, the gifts, you've brought to me,
  My waiting heart to cheer.

I doubt me not you deemed it wise
  Thus to provide this same—
The little stranger might arrive,
  Not one stitch to his name.

For women doctors, be it said—
  Perchance, indeed, you know—
Can cut and carve and give black pills
  But they, alas! can't sew.

My thanks especially are due
  Dear Mrs. Rainwater,
Whose kindly deeds of thoughtfulness
  Are known to all about her.

No less of gratitude I feel
  (Nor must my rhyme here stray)
T'ward Sister Alice, and her friend,
  Our own dear Mrs. Bray.

How just like them to do this thing—
  They're always up to tricks.
I said "Oh, dear," but they replied,
  "No use—the time we'll fix."

To me was left but to submit—
A stranger to this art—
On former happ'nings of this kind
I've played a different part.

Now, many—some e'en present here—
May think it quite absurd
That one who played the "stork" so oft
Surrendered to that bird.

I've helped the stork so long myself—
To calls I'd hurry—flee!—
And now to think that blamed old bird
Has overtaken me.

I can't see how it came about.
I've thought it o'er and o'er;
No nearer is the mystery solved.
Than e'er it was before.

No explanation science gives—
Not even Edison—
Seems just a case of "Doctor, dear,
Take your own medicine."

So meekly now I bow my head
As other womenkind,
To do the will of Him above
Who Motherhood divined.

A thing so great it awes me quite;
I feel mine own unworth
To have entrusted to my care
This dearest thing on earth.

Your pray'rs I ask—a final gift—
That I may be made so good,
That I shall merit God's best gift,
The gift of Motherhood.

And now, dear friends, who've planned for me
The pleasure of this hour,
My thanks again, with all my heart,
For this, my *First* Stork Shower.

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Given as a response of thanks to the many friends who were present at the stork shower given in my honor by Mmes. Rainwater, Sanderson, and Bray, at the home of Mrs. C. C. Rainwater, 21 Benton Place, March 11, 1912.

G. S. B.

St. Louis, Mo.

TREATMENT OF TINEA SYCOSIS

In the treatment of tinea sycosis, or tinea circinata, I rely principally on mercury bichloride, although not infrequently I prescribe the following, which I have found satisfactory in many instances: Ammoniated mercury, grs. 30; petrolatum, oz. 1. Directions: Keep well applied over and slightly beyond the affected area.

When a case is first presented and the inflammation not too severe or the surface involved too large, I cleanse the sore, if need be, by applying ethereal soap solution and then removing the same by thoroughly irrigating the sore with hot water. After this, I thoroughly apply the following with a pledget of cotton to and slightly beyond the surface involved: Mercury bichloride, grs. 4; acetic acid, oz. 1. Also, I prescribe either of the following ointments, with instruction to the patient that the same be kept well applied to and a little beyond the edges of the sore for three or four days, when he is to return to the office: (1) Mercury bichloride, grs. 3; petrolatum, oz. 1. Or (2) Ammoniated mercury, grs. 30; petrolatum, oz. 1.

On the patient's return, if there has been no further "spreading," I discontinue the treatment prescribed and treat the sore as an ordinary wound. Should there be a return of the trouble, I resume the ointment after thoroughly painting with the mixture of bichloride and acetic acid.

As always, it is necessary to treat each case on its merits—individualize—and reduce the inflammation if too active. Since cases respond differently to treatment, it becomes impossible to lay down sure and fast rules. So I would advise to go after that "bug" with the bichloride—go after him hard so long as the surface involved is not so large as to endanger the patient through possible poisoning from absorption of too much bichloride. Then treat the sore after destroying the parasite.

There may be no little pain following the application of the bichloride-acid mixture, especially so if the skin is much inflamed, so, if pain is intense, I follow in fifteen or twenty minutes with cotton wrung from hot water and laid on the wound. This soon allays the pain and removes any excess of bichloride.

A young man having a well-developed case of barber's itch came to me for treatment, with the following history: A few weeks before, he had some breaking out on his face, which was getting worse (spreading), until he happened to be exposed to measles and developed a strong case of rubeola. With the disappearance

of the eruption of measles the old breaking-out also disappeared. However, it soon returned and took on the same form as before. So the man came to me for treatment. Following the usual treatment for the destruction of tinea sycosis, the eruption disappeared, not to return. While measles did not completely destroy the tinea, no doubt it did not thrive during the attack of the rubeola.

Have any of the brethren met with like experience? I shall be pleased to hear from anyone through these pages.

J. F. CHANDLER.

Eagle Butte, S. Dak.

MEDICAL EDUCATION

These boys! They come forward with their eternally new propositions for upsetting things and regenerating the earth, unconscious that their novel ideas and schemes are only new to them and have been tried and tried times without number, while this old world has been attaining its majority.

In November, that wise old veteran, Dr. T. D. Crothers, in *The Alienist and Neurologist*, presented a significant paper entitled "A Forecast of the Evolutions and Revolutions in Medical Education." Dr. Crothers finds the present transitional movements involved with confused theories, based on tradition, credulity, and dogmatic conceptions. Certainly, much of the work of today is far behind its requirements. Even with palatial equipments and endowments and in the face of general education of the people, there remains a gap between actual and possible attainments.

In medicine, special lines have crowded out general study. The new is considered complete, and specialties crowd the curriculum. The student is overtrained in these—confused, bewildered, uncomprehending. The scholastic methods reduce all to a level of skepticism, credulity, and egotism. The student in real life must unlearn most of what he has been taught. The diploma has lost its significance—in reality, it stands simply for a period spent at college; little more. Our political examining boards evidence the failure of colleges to turn out finished physicians.

The A. M. A. Council seeks to force colleges to higher levels. The Carnegie Board classified the colleges according to some fixed theories. Like all efforts labeled "advance," this one was welcomed, on the assumption that it was wisely directed and might do good by breaking down weak schools and strengthening the strong. But instead of proving practical and *e*-volutionary, it turns out to be *re*-volutionary. The small schools seem weak and deficient, the large ones dogmatic—"scholastic stupidity and faults loom up in startling proportions."

The small institutions can be improved; the large, with their steam-roller methods and their traditions, regardless of the needs of the day, present difficulties. Admission requirements are startlingly faulty: college training develops parrot-like culture, depending on memory; fact collection, unusable and burdening the intellect. To the untrained, uncultured product, a political board presents questions the answers to which determine his right to practice, and presumably his fitness.

Then comes disillusion. The college stock does not fit the actual needs. Practical work has to be learned again, after all the best years of the man's life have been wasted in learning things that he finds as useful as the differential calculus is to the cow puncher or Sanscrit to the foreman of a gang of street-cleaners. The impetus of divine youth has ebbed, egoism has developed, and a surfeit of knowledge has quenched thought and narrowed observation. Professional and humanitarian ideals of duty and responsibility are dimmed, and replaced by greed, selfishness, commercial debasement or the sense of scholastic separation that creates a gulf between the man and the people.

In the smaller college the student escapes this peril; he is starved rather than surfeited. The craving for advance is aroused in him, which is apt to carry him to a higher level, while he is also held closer to the practical needs of his work and to the masses of the people of whom he remains one.

The requirements of medical education grow more intense. They demand physical and mental vigor on the part of the student and of the practician. He must exemplify his theories in his own perfect health and fitness. The laws of life, health, and longevity are his to know and to practise.

Ignoring this, anybody can enter medicine—he secures a degree from high school or college, pays his fees, passes examinations, buys quizzing to pass the state boards or develops a phonographic memory for questions and answers. "Today the halt, the lame, the blind, may secure the diploma, and mental and physical feebleness are no obstacles to the practice of medicine. The student may be a moral paretic, a paranoiac, or a degenerate, feeble-minded in many ways, or an epileptic, and pass the traditional requirements and become a physician. West Point and Annapolis refuse to train anybody who is defective physically or mentally. Their graduates represent the highest types."

The medieval tradition remains, that mental training can overcome physical disabilities and weaknesses. The presence of many incapables and defectives among teachers and preachers, and physicians, answers this fallacy. The high mortality among the profession shows that longevity is not successfully considered by themselves.

Evolution in medical colleges is not gained by setting up standards and erecting buildings or requiring college degrees at entrance. This is superficial and fails to make the real physician. It is revolutionary to try and drive out the weak colleges and concentrate along the present defective levels. Men entering medical schools should be compelled to show their physical fitness, their mental health, their moral worth, and then enter school preparatory for medical study and bodily culture. The specialties here should be health culture, nutrition, athletics, hygiene, and the modern languages and science studies that bear upon medicine. They should teach men to know themselves; how to live, to sleep, eat, exercise, think, observe, to study. Two years of such training fit the student to enter medical college, where the course should be arranged to continue the student's development. It will be a drill in the future life-work.

Dr. Crothers has touched the cardinal fault of the present system; it trains men along analytic lines, while they meet their life-work on synthetic lines. The student begins with the name of the disease and studies its dead anatomy; in practice he meets an ailing man with disordered physiology. The system overloads one's mind with a multitude of things he never can use, and at a shocking waste of time and effort leaves him helpless to practise his unlearned art on the sick and to learn his duties from his mistakes. Tradition and credulity, conservatism and ruts, obsolete methods and observances of interest only to the antiquarian obstruct the car of true progress—whose wheels are heavy with the hanging mud of selfish greed.

The pretended efforts at advance are only intended to crush competitors and to concentrate the incomes of the smaller colleges in the larger. The greater the advances made by any of the former, the fiercer and more virulent is the opposition it encounters from its wealthier sisters.

Take the case of Bennett. As an Eclectic college, weak, miserably equipped, with a few illy qualified students and a negligent faculty of unknown men, she was unnoticed, and her graduates generally succeeded in passing the various boards. Coming under the control of a live, energetic, progressive man, she began to grow; came out from under the sectarian camp and became regular; the classes doubled, the faculty was strengthened. Then opposition began to become active. Her directors added a new college building and modern equipment, brought new men of world-wide fame to her faculty, met the demand for "fewer colleges and stronger ones" by purchasing and merging two of the other Chicago colleges with her, drew entrance and graduation requirements closer, and demonstrated the quality of her sons and her training by presenting candidates who in competitive examinations held their own and won out over the best of the large schools.

What was the encouragement given by these men who seek the "advance of medical education?" An opposition which from virulence grows to hysteria, that deals with lies and innuendoes, with charges it utterly fails to supply any scrap of proof for, that seeks to defraud of its laurels the youth whose prowess won in fair field over competitors who should have succeeded considering their superior opportunities.

It is not an advance of medical education that is sought, but the establishment of a monopoly of medical education in their hands. Study the successive demands made on the medical colleges: They must have buildings and equipment —very good; hospital advantages—quite well; the hospitals must be owned exclusively by the college, not merely available for clinical instruction—why so? There must be at least four professors who give their entire time to the college teaching and do no practice—a questionable matter, since the teachers are thereby divorced from the practical part of medical life and are unqualified to give their work that practical turn that renders it of such direct value; besides, it increases the burden of the school by requiring much larger payments to these men. Now there is talk of requiring that the college must have a certain invested fund, independent of the individual owners, as endowment. Why? To improve education—and how? Or to render it impossible for colleges to exist under private ownership?

Behind and back of all this is the threat, growing in emphasis, that private ownership of medical colleges shall cease. In days of old it was thought not at all disgraceful for men to invest their means in creating institutions of learning; even when a profit was realized on the investment. As for any profit in running a medical college, there may have been such a thing—the writer has been engaged in the nefarious work for more than thirty years and has yet to realize a penny of profit or to come anywhere near recouping the expense, directly or indirectly, through practice secured by the college influence; and he has yet to hear of a solitary person whose experience in this line has been more favorable than his own. Generally the man who puts his money into a medical college has the experience of working his limit to make enough outside of it to keep the expenses paid up.

Then, why does a man continue to teach medical students? Each may answer for himself—the writer teaches because he loves it. The happiest moments of his life are spent in the amphitheater, surrounded by a throng of eager young faces, telling them the experiences and learnings of a long and busy professional life, those things that go to save human life and dissipate the perils of disease. That's why. There's no money it it. Go eat your money if you can see nothing else in life. But if a fortune came to this writer from his teaching in medical college, he should take it unashamed. He has earned it.

W. F. WAUGH.

Chicago, Ill.

AN UNUSUAL ABNORMALITY OF THE ESOPHAGUS IN AN INFANT

The child, a boy weighing 6 1-2 pounds, was born March 19, 1912, and seemed to be normal in every way. On the second day the nurse noticed that it seemed to be bothered by mucus in its throat and nose, and when this was removed, it soon accumulated again. However, when the babe was put to the breast, it nursed (or tried to do so) as well as any normal child. The mucus accumulated so often that, on the third day, the father requested me to come. The child, he said, had cried a great deal and seemed to be hungry.

I found baby's nose and throat filled with a dark-brown mucus, which, by blowing into the mouth, could be forced out into the nose. I swabbed out the mouth as clean as possible and then administered a little cream diluted with water, but the child did not swallow it, although it made efforts to do so. I passed a soft-rubber catheter into the esophagus and brought back what little diluted cream had passed down. The little fellow sucked hard on the catheter and tried vigorously to swallow. I passed the catheter and a bougie several times, to see if there was

any passage into the stomach. But they would go into the throat only three or four inches. I was satisfied that there was no opening to the lower end of the esophagus.

I told the father the child could not live long, as no food could enter the stomach. I did not think it advisable to try to sustain nutrition by feeding per rectum.

I asked the father to permit a post-mortem examination, to which he and his wife consented. The child died on the fourth day, and I made an autopsy five hours after death. The abdominal viscera all seemed to be normal. In following the esophagus from the stomach up I found it attached to the end of the trachea. The left bronchus was about three-fourths of an inch higher on the trachea than the right one, and neither bronchus came to the end of the trachea, as they do normally. After dissecting up to the cricoid cartilage, I passed a metal male catheter into the mouth and into the esophagus and it ended in a pouch just behind the cricoid cartilage.

As this is an unusual case, I should like to know if any of the brethern have ever heard of a similar one. This was the woman's second child. The first child is fifteen months old and normal in every way. Both parents are strong and well developed.

W. E. Dodds.

Richland, Ia.

THE USES OF PHYTOLACCA

Phytolacca decandra, or poke-root, is a remedy known to eclectics for many years, as well as to other practitioners who appreciate a good thing as nature has given it to us, and these are not slow in testifying to the favorable results derived from the plant applied as a therapeutic agent in certain expressions of diseases. The fact of its commonness renders it no less valuable, though many are prone to forget its good offices, in that zeal for new and strange "gods" that are daily rising in the medical world as a result of enterprising commercial drug firms who elaborate multitudes of new chemical and synthetized products the value of which has not been proven except by laboratory tests, and which latter at best constitute but a theoretical basis.

Incidentally, if I may digress a moment, it appears that truly the "blind are leading the blind"; and in no instance is this fact more fully verified than where physicians will thus allow themselves to be led by the vague uncertainty of theory against clear, actual experience at the bedside. The increasing pessimism of the profession against drug medication is one of the resulting evils of being blindly led; and another, the worst possible, the institution of new cults in the healing art, the apostles of which at least try to inspire their patients with that hoped-for return to health, under their methods, that we, as physicians, are prone to neglect. If we have no faith in our therapeutics, our patients lose faith in us. We have too many poor and worthless drugs; still they come, and the fault lies with the doctors, for the reason that they are ready dupes to the arts of wily producers. So much of proven drug-therapy has been relegated to the junk pile, that it will require years of experimentation, along lines of chemical and serum products, to restore it to its merited position—if that be possible at all.

Coming back to the proposition of vegetable remedies, and more especially to the subject of this paper, I would add that but few drugs of any class possess in a higher degree the virtues as an alterative than does phytolacca, or poke-root. Those who have employed it most will readily testify favorably to this assertion. It exhibits in a superior way the results we should expect from the iodine compounds, mercuric preparations, and arsenicals in certain states for which these drugs are used; without, however, the unpleasant gastric and constitutional effects of a cumulative poison.

Therapeutically, phytolacca is an emeto-cathartic, in large doses—an undesirable action; but it acts as an alterative in medicinal doses, which is the property we pin our faith on. Physiologically, it has an influence upon the nervous centers, even to producing convulsions. It reduces the pulse tension and depresses the circulation. Medicinally employed, it has a special

affinity of action upon glandular structures, removing semiorganized deposits and exudates, be they infective or simple. We admire its results more in chronic than in acute troubles of this nature, by reason of never fully knowing or feeling certain in those recent or acute states just what role is performed by the drug towards effecting a cure, over and above what would naturally be assumed to result through the efforts of unaided nature or the auxiliary means usually employed at the same time.

However, in those obstinate chronic cases that have drifted along for an indefinite period and showing no indications toward improvement, we have illustrated without any reasonable doubt the curative effects of phytolacca to a marked degree, providing we persevered faithfully in its use. The lack of persistent efforts along lines of a given plan of treatment, on the presumption that our judgment of pathology is correct, is often fraught with disappointment; and an otherwise good remedy is discarded for another, on an expectant basis of its doing good. We thus lose our confidence in therapeutic measures and conclude the agent set aside is worthless. It requires time and steady application of instituted treatment to change nature from working under faulty conditions.

The old-fashioned "poke and whisky" of the rural Americans appears too homely to be ethical, but it has put to shame the best efforts of some of our scientific doctors. The empirical cures attributed to this home remedy have been a lesson in observing the power of phytolacca as an alterative, and for me personally has won the day on more occasions than one.

As already stated, the selective action of phytolacca decandra is over glandular structures, rendering the drug peculiarly important, in view of the frequent undetermined complications arising in the course of diseases which demand an absorptive stimulation, especially of the lymphatic bodies, for the removal of cumulative waste products that obstruct the normal physiologic workings of nature; in other words, whenever a state of autoinfection prevails, the etiology of which in so many instances is obscure. Many of the chronic ills, be they either general or local, that baffle our best-directed efforts to relieve under seemingly appropriate treatment fall short of the expected, for the reason that elimination of oxidized products is not instituted along proper lines.

On the foregoing proposition, we find phytolacca a valuable drug for socalled rheumatism (whatever that disease may be); always doing good, but, unfortunately, not effecting a cure as often as desired. Probably, when we know more about the malady, therapeutics and hygiene may help us out.

The remedy has but few equals in the treatment of chronic skin diseases, being slow to act, but searching in the ultimate. Those classed as eczematous, especially of the dry variety, and almost every form of long standing, withal rebellious to ordinary systemic or local treatment, come directly under its curative power. Old ulcerations, as presented in numerous specimens or forms, are urged to an added impetus toward recovery. Chronic glandular indurations from inflammatory deposits or septic invasions are stimulated, through the lymphatics, to an absorptive elimination; even tuberculous infiltrations of these bodies are markedly lessened. While phytolacca can not supersede mercury or even be substituted for it as the leading remedy in the treatment of the dermal and other manifestations of syphilis, it nevertheless is good therapy to assume a change of medication to it occasionally during the life of the disease.

The idea I wish to carry in the use of the drug under consideration is not the naming of the diseases over which it exhibits a curative influence, but rather to present those states of nature when its uses become indicated as an eliminant along lines not usually followed, as we are given to understand the ordinary uses of the term. However, it is a hand in hand process in connection with the suggestion often expressed in CLINICAL MEDICINE of cleaning out and keeping clean.

My experience in the use of phytolacca has been with the whole-plant preparation. Just what the results would be in applying the separated principle phytolaccin I am

unprepared to say. However, with the exception, for certain direct therapeutic established effects, such as follow the action of atropine of belladonna, morphine of opium, etc., I believe that the blend of nature's laboratory excels in some respects the active principle. In this individual instance, besides the phytolaccin, we find the plant rich in calcium, thus presenting a combination in nature not obtained in the active principle alone.

A. J. CRANCE.

Pasadena, Cal.

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[I want to correct Dr. Crance in one thing. Phytolaccin is not a true active principle but a concentration, and it contains all that is of value in the plant. There is now on the market a concentration of very superior quality, sold under the name of "phytolaccoid". All that the fluid preparations can do this will do, and it has the additional advantage of being presented in an accurately-dosed, palatable and convenient form. I hope that Dr. Crance (and others of the "family") will try phytolaccoid.—ED.]

THANK YOU, DOCTOR

I hope you will pardon the seeming fulsomeness of what I want to say next, viz., that CLINICAL MEDICINE is to me a perpetual wonder and delight. And I want to add that it is, in my estimation, the most practical and therefore the best medical journal published. Please also believe me, Doctor Abbott, when I say that I haven't seen a hatchet that needs grinding.

M. L. SANGER.

Sugar City, Colo.

DON'T IDOLIZE "BIG AUTHORITY"

The young doctor will find, when he begins for himself, that numerous people will tell him that Doctor So and So is authority on this or that, and that it would be an impertinence for a young beginner so to contradict him. Well, now, as I look back thirty years and more, I know better.

Here is a case in point. Two weeks after engaging in practice a lady brought her eighteen-year-old daughter who had a swelling on the left arm just below the elbow, posteriorly. I told them there was something in there, maybe pus. The mother remarked, "Guess you don't know much. Doctor A, Dr. B, and numerous others, have all pronounced it scrofula."

My first reply was, "She hasn't been cured, has she?" The swelling first appeared under her left ear. That disappeared in time. Next time the swelling occurred four inches lower down in the neck. Then the swellings came and went, from neck to arm, and so repeated, some lasting four years. She had taken potassium iodide and alteratives by the gallon; had visited mediums, fortune-tellers, and others. She was very thin in flesh, had the usual growth of height, but very little muscular development. She menstruated sometimes—two or three times in a year after the age of fourteen.

I suggested that they take her home, apply hot compresses or poultices, and in two days return. When they returned, I found a spot, soft and boggy. I opened the sack and there was a free flow of pus. Soon I saw the end of something like the end of a wooden toothpick working out, and with a little pressure it came out, and it proved to be a sewing needle. The mother then remembered how this daughter when about four years old, being allowed to sew one day, was seen to have a needle between her lips. Just then she had a scare, and they never found the needle. Evidently it was swallowed, for now the mother also remembered the little girl had crying spells (would even wake up in the night) for a long time before the first swelling appeared. The girl had no more "scrofula" swellings, soon began to take on flesh, began to menstruate, was married at twenty, and has three children.

Here, then, was where I should have got left had I bowed to the decision of socalled authorities, and doubted my first impression of something being in the arm. And what might have been the life of this young girl?

Here is another case: A man working in a sawmill was hit by a very heavy billet of wood just under the left eye, crushing in the cheek-bone. Two doctors called and said he would not recover. They cleaned

the wound with warm water, never exposed it, put on cotton, then bandaged and left. Happening to be going by, I saw the crowd and entered the house, knowing the people. By and by the man became conscious. Next day one of the doctors, on calling, said he would not remove the dressing, for the pulse was very weak, and his demise was only a question of time. However, the fellow would not die. He got around, with a big bag of flesh hanging to his chin, and a large depression under the eye.

Then, in about a year, he showed signs of insanity. They had him examined by socalled mental experts. Their family physician was on the point of getting him committed to the insane asylum at Brattleboro, Vt. One day I was passing the house. A brother called to me, and said George had a fearful toothache. I had the reputation of being the best tooth puller for miles about—even the dentists couldn't beat me. I always carried my kit of modern forceps (many there used only turnkeys). George was walking the floor, at times screaming and jumping up and down. I gave him a few whiffs of chloroform, then took out the tooth, a large upper molar with three roots.

After waiting for a few minutes, as I usually did, I examined the cavity to see if any loose pieces of the process or bone were there to be removed. The tooth came out clean, no fracture of the roots, but I felt something that was movable in the cavity. Washing out with the syringe, I saw something white. I got my root-forceps, and after a time I seized something which began to come out. After a bit I had in my forceps a splinter of wood, one and one-fourth inches long, irregular in shape, greatest measurement around being three-eighths of an inch. Result: George's mind became normal.

Now, the question is, had the doctors explored the wound, would they have found this splinter of wood? Would the man ever have had any brain trouble? Was it this splinter of wood that caused the pressure on the brain? It certainly looked so. Here again we see that experts may be mistaken.

Case three. A lady was taken ill in March. She had terrible pains. Vomited fecal matter. Had a complete stoppage of the vagina, so that the finger could not be inserted over one inch. Had five different doctors, some specialists in female troubles. In October I was requested to take charge.

I asked whether I could have a certain surgeon; relying on what I had heard the other doctors say, and what she told me, I made this request. He came. I had, however, made an examination and made up my mind. He diagnosed a growth from above, probably from near the bladder, causing a pressure on the rectum, preventing any movement of the bowels. I had the temerity to disagree with him. My diagnosis was impacted feces. Well, he agreed that she was too weak for an operation, and we must wait until she was stronger.

This was on a Sunday morning. I had my wife give her a number of enemas of glycerin and olive oil. We had a very ingenious blacksmith—no nurses in that vicinity, nor instrument makers. Twelve miles to railroad. I had him make me out of steel a spoon with a long stout handle. In the afternoon I began to remove the hard balls, or scybalæ, a few at a time (she being very weak), until I had at least a large quart dish full of them. A little later an enema of hot water and glycerin caused a slight movement of the bowels. She fainted, but after a time said that the bad feeling there had gone. A vaginal examination was suggested. This she refused, it hurt her so. So I suggested that she insert a fair-sized glass speculum. She did, and it went in easy. At once a smile came over her face: "You may examine now." I could easily insert a speculum and open the walls of the vagina, so as to see the os. The moment she inserted the speculum herself her mind was at ease.

Result, thanks-giving day! Complete recovery from pain. Taken to her brother's in a wagon. Gained strength rapidly. Bowels became normal. Began to do her housework. Examination at different times of vagina and rectum only revealed a mass of loose material, caused no doubt by the pouching out of the rectum by the loss of fecal balls.

Here again, if I had not had a mind of my own, would this result have been accomplished only after a surgical operation had revealed the condition that was found by the use of enemas and the crude spoon. I had a nice letter from the consultant, who said that all young doctors were liable to lean on the older ones, especially if the older ones claimed to be experts, and this was not the first time he had been deceived—and he began to believe there was no fool like an old fool.

I believe that it is the duty of all young men, before they believe they may be mistaken, to go slow—like a lawyer. Build up your case, pick to pieces your own case, if you can, if not, go ahead, and in nine out of ten cases, if you are possessed of any skill, you will win out.

I believe too many young men get scared—neglect or overlook the little points—look for major points when the case is curable by minor treatment, as was the case with the needle, the accidental discovery of the splinter of wood, and the removal of the fecal mass. The needle had never been thought of. Heroic medication for scrofula, insane asylum for George, a surgical operation in the last case, all avoided by the means used.

Now, if this will give courage to all young men to lean on themselves more, less on their books, less on the big authorities, perhaps my experience has been of some value.

ALVENO D. AYER.

Madison, Conn.

HOW TO COLLECT FROM INFANTS URINE FOR EXAMINATION

According to Dr. J. R. Goodall (*The American Journal of Obstetrics*, Jan., 1911), Dr. F. M. Fry, who has made uranalyses in one hundred cases of infants in the foundling hospitals, has devised a method of obtaining specimens of urine for examination, which is important, because the frequency of nephritis in young infants is overlooked in a great many instances, owing to the difficulty of procuring specimens for examination.

Dr. Fry's method consists in applying cold to the abdomen or buttocks. This expedience seldom fails, a specimen being obtainable at any time, provided two hours have elapsed since the last micturition.

THE POSTURE OF THE LYING-IN PATIENT

In recent years it has been urged, especially by some German obstetricians, that puerperal women be permitted very early after labor to sit up in bed or even on a chair beside the bed. A somewhat conservative adherence to the orthodox nine-day lying-in period has disinclined American physicians to adopt this suggestion, and Dr. George Clark Mosher presents, in *The American Journal of Obstetrics*, an interesting abstract from the opinions of a number of German as well as American obstetricians. It is to be noted that even in Germany the idea of an early rising is by no means general and has been insisted upon only by comparatively few men.

It has been argued against the prolonged prone position that the need for the catheter is obviated by permitting the patient to sit up, and also that involution is retarded by the recumbent position. Dr. Reuben Peterson thinks, however, that subinvolution, in the majority of cases, is a matter of infection and not of position of the patient, and that involution will proceed normally if no infection occurs. Some writers have reported that the frequent change of position by the patient, she being permitted and encouraged to turn on her side and even on her abdomen, promotes involution, and that the position last named frequently makes possible the voiding of urine when it failed with the patient on her back.

The prevalent idea appears to be that puerperal women should be kept in bed for from ten to fourteen days, although they may be allowed to sit up in bed after the second or third day for their meals and for their toilet. When reclining, no restriction is to be placed upon their position, and in fact they should be encouraged to change frequently from the dorsal to the lateral positions. The use of

the catheter is justly discountenanced, and should be avoided as far as possible.

These conclusions well agree with our personal experience in a not inconsiderable number of cases. We have found that those of our patients who remained in bed during the proper period did better and made a better recovery than those who insisted on rising early.

We must especially remember the possibility of embolism, which, while infrequent, may occur, as in a case of Dr. Barton Cooke Hirst's. One of Hirst's patients got out of bed on her own responsibility about forty-eight hours after childbirth and dropped dead on the floor along-side of the bed, from embolism.

The conclusion arrived at is, then, to respect the time-honored custom of a puerperium lasting at least nine days. Still, here, as elsewhere, no general rules can be laid down, and we must always consider the individual characteristics of the patient; some may be permitted to sit up and even to get out of bed far earlier than others.

HAVE YOUR DIPLOMA PHOTOGRAPHED

In thinking of the contingency of a doctor having lost his diploma by fire—after a close call in my own case, in which I got my diploma out at the risk of my life, and also that of my brother's, knowing that it would be impossible for me to duplicate it if I lost it—the thought occurred to me, to have it photographed and in that way have it duplicated, so that, if the original should be destroyed, I should have a copy. I should consider it a calamity, indeed, to lose my diploma—not that it would interfere in any way with my practice, but I should consider it a misfortune to have a document destroyed which gives evidence of my having taken my medical course under such men as those who placed their signatures upon it, many of them long since dead.

The certificate issued to one by his alma mater, to replace his diploma under such circumstances, can in no way, with the doctor himself, take the place of the original. The duplicate is evidence of his graduation, of course, but to *him*, it is nothing, from the standpoint of sentiment.

What pride I have always felt in the fact that my diploma held his autograph, whenever I read of the death of some one of the old professors at Rush Medical of Chicago, as the notices appeared in the daily papers from time to time, since the year of my graduation (1896). Just look at this list of great men whose names adorn my prized certificate, but who are no more:

Professor Edward L. Holmes.
Professor James H. Etheridge.
Professor John B. Hamilton.
Professor Henry M. Lyman.
Professor James Nevins Hyde.
Professor Daniel R. Brower.

And the last, though by no means the least, of those illustrious names that met my eyes in the obituary columns was that of the matchless operator and teacher of surgery, Professor Nicholas Senn. Money could not tempt me to part with that square of parchment that holds the signatures of these and of so many other grand and noble men of our profession; a corps of medical teachers seldom equaled in any country, and, in my humble opinion, never excelled in *any*.

But if it should be destroyed by fire or otherwise I could not replace it. So what is the next best thing to do? Right now I shall have it photographed by the best artist available and enlarged to full size, then put the original in the bank-vault and frame the copy. B. F. STRONG.

Norborne, Mo.

[This is an excellent idea. A diploma once destroyed is gone forever, since no medical school issues duplicates. A physician removing to another state may be put to considerable inconvenience by his inability to submit this document to the proper authorities. Other evidence of graduation from a reputable medical college is not always easy to obtain. The suggestion to put the original in a safety-deposit vault and frame the photograph for display purposes is worth considering.—ED.]

VACCINE THERAPY IN TYPHOID FEVER

In a paper read before the Southern Medical Association (*The Southern Medical*

Journal, February, 1912), Dr. J. B. Elliott, Jr. discussed the problem indicated in the title. The vaccine treatment of typhoid fever has been found not only effective, prophylactically but curatively as well. Chantemesse treated, from 1904 to 1908, about one thousand cases, with a mortality of 4.3 percent, while in the other hospitals in Paris, during the same period, there were 5621 cases with a mortality of 17 percent under nonspecific treatment. In Jacksonville, Florida, during the Spanish-American War, in an army of 10,756 men, there were 1729 positive cases of typhoid, with 248 deaths; while at San Antonio, in an army of 12,801 vaccinated troops, there was but one case, and that imported, and no deaths. Leishman reports from the English army observations, on a body of 12,083 troops living under similar conditions, that among the 5473 immunized there were 21 cases and 2 deaths, while among 6610 not vaccinated there were 187 cases and 26 deaths.

In an asylum of which Cullinan had charge, an epidemic of typhoid fever broke out. He reports that out of 500 persons who were vaccinated, with their consent, only 1.3 percent acquired the disease, while of the nonvaccinated, 14.9 percent went down with typhoid fever. The evidence furnished by the author is decidedly in favor of the continued trial of the prophylactic use of vaccines in typhoid fever. Experience also shows that both the prophylactic and the curative administration is harmless and it certainly promises well for the future.

Several interesting experiences have been reported in the treatment of typhoid-carriers who were cured by active immunization to the typhoid bacillus. As regards the curative use of vaccines, the author justly points out that we are not dealing with an antitoxin, but with a vaccine which is to stimulate the formation of immunizing bodies in the affected organism, and that we must presuppose that the patient has reserve forces capable of being aroused into action. Therefore, the earlier vaccine treatment is used, the more useful it will be, since to wait until the system has been overwhelmed by any toxin and then to expect to neutralize the toxins or to stimulate the formation of new antibodies is manifestly absurd. It has been found in reports from literature that in 441 cases treated with vaccines there was a mortality of 4.5 percent.

In the discussion of the paper it was pointed out that conditions at Jacksonville and at San Antonio were not uniform, in that at San Antonio the lessons learned in the Spanish-American War and later on had been followed, and therefore the sanitation in the camp of San Antonio was vastly better than formerly. It stands to reason that under those circumstances the danger from typhoid infection was greatly diminished, but we must nevertheless admit that, in the massing together into a small territory of many thousands of troops, perfect sanitation is impossible, and that there must always be more or less danger from typhoid fever. It is undoubtedly correct to admit that the antityphoid vaccination which was practised is to be credited to a considerable extent with the exemption of the army at San Antonio from this disease, that usually causes such havoc among the troops.

CONTENTMENT MEANS DECAY

There is current an erroneous belief, at the present time, that contentment is the highest goal to which mankind can attain. This most prevalent and popular idea of contentment is absurd, for it would lead us to believe that, if it were once attained, we should live in a world of perpetual happiness. As I disagree with those who treasure in their minds this false conception, I shall endeavor to prove the falsity of these ideas, and, conversely, the truth, that real happiness can be reached only through achievement; and, further, that contentment—present satisfaction with conditions as they are—means decay.

People in general do believe that contentment is the highest acquirement to attain. They think that if they can reach this coveted goal, they can fold their arms in perfect satisfaction and spend the rest of their days in idleness and ease, forgetful of God and man, forgetful of the fact that for

every right one enjoys there is a corresponding duty, and for every privilege, a trust to be discharged. Speak to the average man concerning his conception of contentment, what does he answer you? He may reply that it is to dwell upon some quiet little portion of this universe with all the necessities of life provided, mentioning very emphatically that creature whom he has seen fit to consider the fairest of all creation. Question twenty men, and you will receive a score of replies varying widely from each other but including that which I have quoted, yet the desires of nearly all are really much the same, in fact, they show a like motive of selfish ambition.

For this reason alone—although there are many others—contentment is undesirable, since such ambition would lead at once to stagnation and, therefore, would be a tremendous impediment to progress.

Keeping this thought clearly in mind, let us for a moment contrast Japan's progressiveness with the unprogressiveness of China. First let us consider the ambition of the aggressive Japanese.

"When Japan first looked upon the world, which had for so long been hidden from her, it became henceforth the constantly expressed aspiration of every educated Nipponese that his country enter with the occidental nations in the race of progress." The Russo-Japanese War is proof that they are doing so. The motto of the Chinamen is today and always has been, "China for the chinese and out with the foreigners, we are content." This virtually means, Out with progress and civilization. Thus it is readily seen that the superiority of the Japanese over the Chinaman is due to the fact that the latter is satisfied with present conditions, while the zealous, wide-awake Nipponese is not a moment content when he sees a possible chance for improvement, even at the risk of life and home.

Then, again, contentment is undesirable, not only because it leads to stagnation, but because stagnation atrophies one's powers. Were you to pass through India today, you would not have to be a keen observer to see a Hindu with his arm stretched above his head, unable to drop it. "It has become atrophied as a result of so many years of disuse in the discharging of some vow or penance." Scientists tell us that the ostrich has lost its power to fly only because it has neglected to make proper use of its wings. Or, were you to examine some specimen of fish in Mammoth Cave, you would find that its optic nerves are atrophied because of its ages-long existence in darkness. I believe I have presented enough proof, so that all will agree that contentment is undesirable.

Someone may object: "If you would not have us strive for contentment, you would be depriving the world of its happiness." Oh, no! happiness does not consist in being content merely. The man who accomplishes something he has worked upon for a long time is not likely to rest contented, because he knows, without doubt, his achievement can be improved. Therefore he sets to work, encouraged by his first success, to make his contrivance more nearly perfect. A man with this ambition is far from the danger of atrophying, and a keen feeling of joy creeps into his soul when he sees the fruits of his labor placed before the public, which honors the man who made the effort. Then this kind of man is ever happy in the execution of his work, and is, moreover, a source of happiness to all about him. Is it not a blessing that not all men are satisfied with present conditions? Sometimes the effort involved is very laborious and even painful, yet it is a small price to pay for the happiness of achieving higher and better things.

Discontent, then, the opposite of self-satisfaction, brings about effort. "It is a good thing to appreciate that we have not done our best and then try to do it. It is a good thing to understand that we have not made the most of our opportunities. In this sense, discontent is the spur of ambition and an incentive to do better work." If this is true, contentment does not bring about achievement, since achievement means growth. Contentment, as I have shown, means stagnation, and stagnation, since it atrophies man's powers, means decay.

Therefore, let us not be content with things as they exist today, since the results

are so meager, and even dangerous; but rather let us strive with all our strength to raise mankind to a higher plane. This we can do by endeavoring to achieve something. And, lastly, let us remember that, however great the effort may be, the happiness derived from it will greatly reward the one who tries.

ARTHUR L. PARKS.

Rome, Ga.

THE RELATION OF CHOREA TO RHEUMATISM

In *The Practitioner* for March, Mark S. Frazer presents an interesting analysis of 300 cases of true Sydenham's chorea, in patients admitted to the Paddington Green Children's Hospital in the decade of 1890 to 1910.

Out of these 300 cases investigated, definite evidence of rheumatism before the attack of chorea was found in 150, i. e. 50 percent, while, in 15 more, evidences of rheumatism occurred through the attack of chorea when the patients were under observation in the Hospital; so that in 53 percent of all the cases definite evidences of rheumatism previous to or concurrent with the attack of chorea were evident.

Cardiac affections during the attack of chorea were recorded in 189 cases, or 63 percent. Rheumatism was known to have occurred after the attack of chorea in a large number of the patients, after their discharge from the hospital. However, accurate statistics in this respect manifestly are impossible. The author cites F. E. Batten, who followed up the histories of 115 cases of chorea and found that at least in 50 percent there developed rheumatism within six years.

A family history of rheumatism and of chorea (that is, evidences of chorea and of rheumatism in parents, brothers, and sisters) was found in 180 cases—that is, in 66 percent—as follows:

A definite family history of rheumatism in 132 cases; a definite family history of chorea in 42 cases; a definite family history of both rheumatism and chorea in 26 cases. This percentage is probably lower than the actual conditions would warrant. In fact, a strong family history of rheumatism is so often obtained in chorea cases that it must surely have some bearing on the relation subsisting between the two. If cardiac systolic mitral murmurs are accepted as evidences of rheumatism, then, out of 300 cases of chorea, 270—or 90 percent—had either individual or strong family rheumatism.

The question whether chorea ever is nonrheumatic is answered definitely by the fact that, of the 300 cases investigated, in 30—that is, 10 percent—no evidences of individal or family rheumatism could be obtained.

MAY A DOCTOR ABANDON A DISOBEDIENT PATIENT?

Early in January of last year (1911) I was called upon to treat a case of zoster, with marked nerve involvement, in the person of a woman addicted to the taking of alcoholic liquors in considerable quantities. I advised the dropping of everything of an alcoholic nature, and the patient assured me that she had followed such advice. Recovery was prompt in this instance, but about one month later she developed general rheumatic arthritis, which I was called upon to relieve. During the interval between the disappearance of the zoster and the appearance of the rheumatism the patient had continued taking on all sorts of alcoholic liquors in immense quantities. She told one person that it required from a half pint to a pint of whisky to straighten her out in the morning, and her daily consumption of liquors of every kind was from fifteen to forty drinks per day, in addition to her matutinal libation.

When called upon to treat her for the rheumatism, I again advised absolute abstention from everything alcoholic, and she promised faithfully to follow my advice. Presuming that she would do as she promised, I began a course of eliminative treatment, as well as one specifically directed toward the rheumatic condition. I administered colchicine until a thorough physiologic effect was apparent and gave her salicylates until she was thoroughly

saturated, but without results of a permanent nature, although at times, during the two weeks she was under my attention, there were days when she would be in better condition, such condition only to be followed by a retrograde movement and still greater involvement of the inflamed joints. During this time, whenever I suggested that she was not following my suggestions as regards alcohol, she insisted that she was taking only what I had recommended and that she had drank absolutely nothing containing the least alcohol.

At the end of two weeks I was called out of town for a time, and on my return found her condition about the same as when I left, despite the fact that she had been following the course of treatment mapped out by me prior to leaving. A day or two after getting home I was informed by a friend of the patient that he had on several occasions, both prior to my leaving home and while I was away, taken bottles of whisky to her and that, despite her assertions to the contrary, she had never, at any time, dropped the use of alcohol. Within a day or two thereafter not less than eight or ten others advised me likewise and told me that the patient said that Servoss might know what he was doing, but that she was not going to deny herself at least some little pleasure in life.

Presuming that alcohol was the predisposing cause in this case, and believing that my presumption was correct in every way, and further believing that any treatment would be worse than useless and that it was a waste of time, money and medicine to continue my attentions, I withdrew from the case, without giving any reason for so doing.

In the beginning of this case I administered the salicylates in large doses, with no apparent effect. Then I followed the system suggested by Waugh, of small and very frequent doses of salicylic acid, but with like results. Colchicine caused the bowels to act freely, but seemed to have no effect upon the toxins. I was able to control the pain, to some extent, with hyoscyamine, and to obtain rest for the patient with veronal. Later I gave aspirin to what should have been saturation, but without results. I advised the removal of the patient to a hot spring, where the toxins might be "boiled out," but met with refusal. Then I dropped the case.

Some uphold my action of withdrawal, while others insist that I should have continued. Those who uphold me advised me in the beginning to have nothing to do with the case, saying that I could not hold the patient in check, in so far as the consumption of alcohol might be concerned, and that I was following a forlorn hope in any endeavor to bring about a satisfactory termination of the malady. Those who insisted that I should have continued contend that I have left the patient to suffer, when I might possibly have given her at least temporary relief, and that my action has been heartless, to say the least.

I believe that I was absolutely justified in withdrawing from the case as I did. In the first place, the patient would not follow my instructions, and through incessant use of alcohol, in one form or another, continually augmented the condition and overcame any possible drug action. Secondly, by continuing in attendance and not obtaining results of a satisfactory nature, either to myself or patient, my professional reputation was at stake, and I was subject to more harm than good in the future, through further attention to this obstreperous patient.

Of course, there were many who understood with what I had to contend, who realized that nothing could come from any treatment, whatsoever; but there were others who considered that the patient should have shown improvement, regardless, and had I gone on with the case, and without marked improvement, the latter class would have considered that I either did not understand the condition or did not give it proper attention.

I believe that in every case of this sort, wherein the patient fails to consider the advice of the physician, the latter should promptly withdraw. I believe that, in the end, such action will be considered justifiable, even by those who may have censured him at the time of withdrawal. There is absolutely no reason why a doctor

should risk his reputation in a case of this sort, and if he sees that his patient will not do as he advises, the sooner he gets out of such work, the better.

I have followed up one or two other cases of this sort in the past, not having sense enough to get out early, and the result has been censure because of the fact that results were not forthcoming. Had I withdrawn as promptly as in the case under consideration, I should have saved much damage to my reputation, as well as a saving of supplies and time, as the patients did not get well.

The question is, was I justified in dropping this case as I did?

GEORGE L. SERVOSS.

Fairview, Nev.

NEWS NOTES

EVERYONE sending in his renewal subscription order during the month of June will receive free a copy of the beautiful picture, entitled "Motherhood," which was used as the frontispiece in our May issue. If you want extra copies, to give to your patients for framing, they can be secured for five cents each.

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WHEN you write to CLINICAL MEDICINE or to any member of its "faculty", please sign your name in full. Within the last few weeks, we have had a perfect epidemic of unsigned or initial-signed postcards, and not in a single instance have we been able to trace the doctor's name and address. Please do not make this mistake.

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OUR supply of the March number of CLINICAL MEDICINE is entirely exhausted and we are constantly having requests for more from men who desire to complete their files. If any reader of this item will send us a copy of the March issue, we shall be very glad to remunerate him, either in cash or by the advancement of his subscription.

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EVERY once in a while we make a mistake, typographical or some other kind. We did this in the article by Dr. Henriksen, printed on page 551 of the May CLINIC. Line 46 should read "eighty-three daily dressings," not "eight three-daily dressings" as printed. Also the doctor's initials are "H. G." not "H. C." as printed. Apologies!

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A TWELVE story building to be occupied exclusively by physicians and dentists is to be erected at St. Paul, Minnesota. This building has cost more than $1,000,000, has a laboratory and emergency operating room on the roof, and a well-equipped medical and bacteriological laboratory, and a pharmacy. There are also facilities for developing x-ray and color photographs, and nearly everything else likely to be of service to physician tenants.

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HERE is an innovation which meets with our warmest approval. Dr. John Ridlon, of Chicago, known on two continents as a great orthopedic surgeon, informs us that he will examine and advise crippled children of the deserving poor at his office (7 W. Madison St., corner of State and Madison), on Sunday mornings at 10 o'clock. Patients should bring letters from their family physicians, stating that they are deserving of this free treatment. Friends of ours, even though they live a long way from Chicago, will not have to be reminded that Dr. Ridlon is one of the greatest surgeons in this special field in America. He is establishing a magnificent private charity.

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WE learn from a California paper that the actual intrinsic value of a man of average weight is only $7.20. There is enough fat in his body to make seven bars of soap, iron for one medium-sized nail, sugar to fill a small bowl, salt to fill an ordinary salt-shaker, lime enough to whitewash a chicken-coop, phosphorus to make 2200 match-tips, magnesium enough to make a fair dose of "salts," sodium enough to settle a sour stomach, potassium to explode a toy cannon, sulphur to rid a dog of fleas, and albuminoids enough to make a case of eggs. If these facts don't make you feel cheap, figure it out for yourself on the fertilizer standard—thinking of some neighbor, to make you cheerful, of course!

We have just received a complete set of circulars from The Spokane Society for Social and Moral Hygiene, which are used for distribution among young men and women for the purpose of giving them instruction in sexual hygiene. These little pamphlets are intended to reach young people of different ages. There are seven of them in all. We can heartily commend the movement and the literature, which latter is explicit, yet clean. Any of our readers who are interested should write to Dr. J. G. Harbison, 420 Old National Bank Building, Spokane, Washington, the secretary of the society, for a sample set, of course sending along stamps enough to pay the postage and a little more.

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If you are not familiar with *The Philadelphia Journal of Physiological Therapeutics*, let me urge you to procure a copy. The March number, which has just come to my attention, is a gem. There is an interesting article upon "The Pathology of Gout," by F. D. Weidman, one on "Mechanotherapeutical Treatment of Constipation," by our old friend Dr. W. R. D. Blackwood, "A Few Mechanotherapy Don'ts," by Dr. Von Cotzhausen, and a nice paper on "Traumatic Injury of the Nerves," by Dr. J. C. Walton. Dr. Louis Von Cotzhausen, the editor, is one of our good friends, and we are glad to see him break into the editorial game. There are many good features about this publication, but I particularly commend the abstracts and the gleanings from many therapeutic fields. We are glad to see that the editor of this journal believes in drugs as well as in physiotherapy. Send to the business manager, 1711 Green St., Philadelphia, for a sample copy, or better still, subscribe. The price is only $1.00 a year.

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I am going to ask a favor of you. I want you to write for a copy of the May number of *The Medical Standard*. (Better still send a dollar to Mr. Engelhard and tell him to put you on the list for a year—the price is $1.25, but he makes a concession to our "family.") This number of the *Standard* I think is fine. You'll think so too. The editorials are virile—right to the point—brave. (And I don't agree with them all, either.) The leading articles are well written, practical and pungent, and the one on "Jaborandi and Pilocarpine," by Redfield, is one of the best I have ever seen on this important drug. More than that, I think that *The Standard* has the best running review of the current medical literature published in any monthly medical journal. It discusses just the things which the general practitioner is interested in, and does it in a way that he can understand and enjoy. The "Round Table" symposium on "Aconite" brings out the opinions of such men as H. A. Hare, Beverly Robinson, A. L. Russell, Douglas Stewart, and such practical masters of everyday bedside therapy as Williams, Redfield, Perry, and Wolverton. Take it from me—you will make no mistake in subscribing for *The Standard*. Send your dollar to 537 S. Dearborn St., Chicago.

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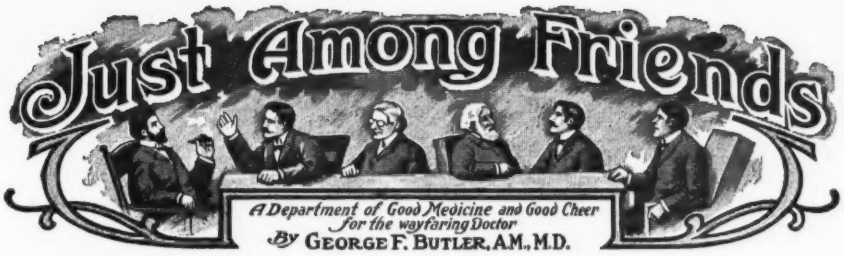
A circular was recently brought to our attention, concerning a firm whose business apparently it is to supply "medical mailing lists." This firm states that it is "the largest medical-list house in the world." It will supply classified lists of people suffering from rheumatism, constipation, dyspepsia, nervous debility, catarrh, bronchitis, neuralgia, eczema, heart troubles, epilepsy, consumption, morphine or other drug habits, hemorrhoids, intestinal weaknesses, blood poisoning, stomach disturbances, diabetes, cirrhosis of the liver, torpid kidneys, and all the kindred "ills that flesh is heir to," for a spot-cash payment of three dollars per thousand names. The only exception to this price are the lists of people suffering from "cancer, rupture, and deafness." These lists are presumably exceedingly choice, the price being $10.00 per thousand, though we are informed that the regular rate is twice that sum. Presumably the more desperate the disease, the more it is worth to the harpies. If the disease is an absolutely incurable one (from the standpoint of the educated medical profession), presumably no price is too high. Here is a good chance for the postoffice department to do some very useful work.



THE treatment of gout ranges over a wide field, according to the phases of the complaint, the kind and nature of the local manifestations, as also the age, temperament, and antecedents of the patient. I shall speak only of the treatment of the gouty paroxysms, that is, acute gout.

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The treatment of acute gout is conducted in the main on the same lines as that of other inflammatory ailments. At the outset the bowels are relieved by suitable purgatives, preferably a saline laxative in full and repeated doses. If the fever runs high, the patient is confined to bed, the inflamed joints kept at rest, the diet consisting of milk and farinaceous articles; diluents should be freely administered. It is necessary, however, to bear in mind the specific character of the inflammation. The application of cold to the inflamed joints must be strongly deprecated; such a proceeding involves serious risk of metastasis of the morbid process to the internal organs. The joints should simply be swathed in cotton waddings, covered with oilsilk. This application acts as a light poultice and promotes cutaneous transpiration and a timely development of the tumefaction, this usually being followed by great relief of pain.

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Repeated purgation is undesirable. It is of more service to encourage the action of the skin and kidneys than to induce watery intestinal discharges. During the inflammatory period the use of meat should be avoided. There seems no doubt that neglect of this precaution tends to prolong the attack; adequate nourishment of a less stimulating character can be supplied in milk, bread, farinaceous puddings, and a little fish. Alcoholic beverages, except under special circumstances, should be withheld during the febrile period. In weak or elderly persons whose systems have been permanently lowered by repeated attacks, the diet should be not unduly meager, and nourishing soups, white meat, and a modicum of alcoholic stimulants should be allowed.

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In sthenic cases during the febrile period, the acidity of the urine should be controlled and its volume increased by the systemic exhibition of the bicarbonate or the citrate of potassium. Salines containing sodium should, for chemical reasons, be avoided. If a saline aperient be thought desirable, the saline laxative, composed principally of magnesium sulphate, should be chosen. The occasional use of mercurials, especially the combination of calomel, podophyllin and bilein, for the relief of the hepatic congestion is advisable. When the nights are very restless, codeine, acetanilid compound or modified Dover's powder may be administered at bedtime.

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For the purpose of controlling the gouty inflammation and shortening the attack, there is no remedy comparable to colchicine. The use of colchicine, however, requires care. Some persons are exceptionally sensitive to the action of the drug and experience a sense or faintness from heart failure, unless the dose be very small. in other persons, ordinary doses of colchicine will induce purging, and for them the dosage must be reduced accordingly. The striking effect of colchicine in reducing gouty inflammation and diminishing the pain often is very remarkable and un-

doubtedly is of a specific character. Fears have been expressed that, although the immediate action of colchicine often are favorable, the more remote ones may not be salutary and that the use of the drug tends to increase the frequency of the recurrence of the paroxysms. These apprehensions do not, however, appear to rest on any solid grounds of facts. In cases where colchicine proves ineffective or is badly borne, potassium iodide and potassium bromide, the salicylates, and also the salts of lithium may be used.

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When convalescence is fairly established the stiffened and swollen joints should be cautiously massaged and gently exercised. The patient should be encouraged to take the air. The dietetic restriction should gradually and sensibly be removed. Strychnine, mineral acids, various other suitable tonics, and finally change of air to the seaside or to an upland location should be recommended as helpful to accelerate the restoration to health.

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In choosing a diet for persons disposed to uratic precipitation, regard must be had, of course, to the whole condition, and especially to the peculiarities of the individual. Nowhere, perhaps, is it more necessary than in gout to consider the man as well as the ailment, and very often more the man than the ailment. Nevertheless, the general rule of diet is, I think, pretty clear. Gouty people should be advised to partake cautiously of meat, fowl, game, and cheese, but to eat as freely as their digestion will permit of bread, rice, garden vegetables, salads, and fruits. The advantage to be gained from an adjustment of the dietary on these lines may be inconsiderable or even inappreciable in cases of inveterate gout, but it may be of critical moment in slighter cases. A diminution of one or two grains per day in the amount of urate thrown into the circulation may make all the difference between the occurrence or nonoccurrence of an arthritic attack.

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The highly important part played by certain kinds of alcoholic beverages in the genesis of the gouty constitution and in fostering a proclivity to uratic precipitation has been well established. The precise mode in which this adverse influence takes effect is not well understood. The most trustworthy researches indicate that these beverages, in their legitimate use, exercise no appreciable direct influence upon the quantity of uric acid produced in the body, nor is their action proportionate to the percentage of alcohol contained in them. Distilled spirits have but little influence in promoting gout, and whisky and gin less than brandy. On the other hand, the richer wines, including port, sherry, madeira, champagne, burgundy, and also strong ale and stout are highly provocative of gouty manifestations. The most wholesome wines for the gouty are claret and hocks. Fully fermented and dry wines are less injurious than sweet and new wines.

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In gouty persons with a robust habit, a regimen of total abstinence from alcoholic stimulants is generally the best. Practical experience, however, shows that hard and fast lines on this matter cannot be maintained. A good many gouty persons, as a matter of fact, do better with a moderate allowance of alcoholic liquors than without any. In some cases of this class, the complete withholding of stimulants fosters a low asthenic type of gouty manifestations that are more injurious to the general health than the frank inflammatory attacks. Personal experience of an observant patient in regard to the point under consideration should always be elicited and carefully weighed by the medical adviser, such experience not infrequently furnishing valuable indications that may be turned to good account in the general management of the case.

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Heredity has much to do with gout. As for my own ancestors, I am a man with a tribe addicted to gout. I belong to a race that were ridiculously simple to deal with up to a certain point and under ordinary conditions, but beyond that point, especially when suffering from gout, they were liable suddenly to take the bit in their teeth and race away headlong until their so-few

wits were dashed out on the rocks of their own folly.

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When I have the gout I am an idiot and a bear. I say cruel and unprintable things to my wife and other members of my family and to my best friends, and an entirely new and unique brand of profanity comes to my lips unbidden. In the incipient stages of the malady, I seem to be fawned upon by a host of parasites or else I am shunned because of the distaste I breed in those whom I long to call my friends. Nothing satisfies me. At the best, I am not of the clay that is capable of much self-sacrifice; then, when the gout hits me, I am compelled to forego some things, and to do this, as to do almost anything else I do not want to do just then, makes me furious.

It is useless to ask a man to be calm and patient the moment a nerve is torn out by the roots—and that's what seems to be taking place when the gout is fully established in my big toe. Right in the midst of my trouble, when I couldn't bear even the weight of the sheet on my foot, an old friend of mine—a Christian Scientist—called my attention to the optimistic stuff I had written for the sick and unfortunate and how very near I had been to a "scientist" myself, and if I only just *understood* how I need not be suffering as I was, that really there was nothing the matter with me, and —oh, well, you know the "dope."

I just told her she talked like a bullfrog with wings and a white night-shirt. The first time she talked to me on this subject a sudden sort of feeling came over me that my money was on the wrong team this season—as it was the last. The second time she broached the subject to me I wanted to commit murder. The third time I understood why a dog howls. The fourth time she knocked me out completely, I gave up all attempts to argue with that creature or to think, and prayed that I might die.

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At last my well-meaning friend had me where she was able to rejoice at her unanswered foolishness without being under the painful obligation of having to explain it. Her arguments (?) and my suffering rendered me speechless, and she seemed to be glad of it. Perhaps she thought I felt easier! Her smile grew in its expanse until the gold filling was seen to glitter around a tooth in her upper jaw and she leaned back in her chair with an air of satisfaction that had something in common with that of an owl in a ruin who has just eaten a bat.

That self-satisfied expression of her visage resuscitated me like an electric shock. I sat up in bed, hurting my gouty toe, of course, in the act, and then—well, the primeval fiend that lurks in the hearts of all of us, and has lurked there from the time that man first swung upon branches and curled his tail round a tree, the lust of hitting back possessed me, and forgetting her sex, that she was an old friend of the family, that my wife and daughter were present, that I had taught a Sunday-school class, I burst into a wild and incoherent tirade of invective and abuse, until language failed and a merciful silence came between us. Speech lost its adequacy. I had reached that uttermost abyss of misery and contempt that could bear no spoken record. I was vanquished.

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To think of such a being imagining that she possessed some God-given knowledge that I knew nothing about! Why, if you should dig over her mind with a spade, nothing would be turned up in it. Her name henceforth will be to me a synonym for a splendid intellectual nullity.

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I had had the gout several times, but this is the only attack I have had for two years. At one time I followed strictly the rules laid down by a noted English specialist on gout regarding diet, habits of life, and so forth, and I had more attacks of gout those two years than I have ever had before or since. So I gave up dieting, ate what I craved, but was careful not to eat too much, *stopped smoking two years ago last February*; kept my bowels open, and have had but one attack of gout since! Draw your own conclusions.

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After the acute symptoms subsided, the stiffness remained. So I went to the Indiana

Mineral Springs, at Mudlavia, Kramer, Indiana, to see what the mud baths would do for me. The first two or three days I was discouraged. I had to give an address before a joint meeting of the Sangamon County Medical Society and the druggists at Springfield, Illinois, on the evening of April 24.

I had been altogether too ill to prepare this speech, the time was near at hand, and I must get at my work, gout or no gout. So, one afternoon, after my bath, I went to my room, took my pen in hand and got off the following:

All Nature is bilious, from her heels to her head,
When a feller's got gout in his feet.
She's all out of humor, she's in deepest despair
When a feller's got gout in his feet.
There ain't no joy on the earth, no good in the sea,
Ain't no "ginger" in life as there onc't used to be,
When a feller's got gout in his feet—
What's the good of blue skies an' blossomin' trees
When a feller's got gout in his feet?

He ain't worth a cuss for the work of this earth
When a feller's got gout in his feet;
He feels the whole blunderin' mistake of his birth
When a feller's got gout in his feet.
He feels he hain't no interest in the hull fool plan,
Sorter been slighted by Nature's cute han',
A dejected, left-over, disconsolate man
When a feller's got gout in his feet.

He has lost his stiff grip on the whole of the crowd
When a feller's got gout in his feet;
He feels like a dead man with nary a shroud
When a feller's got gout in his feet.
He may be crawlin' aroun', but he's out o' the game;
Wickedly swear an' groan, but he's dead just the same—
He's dead, an' there's no preacher to boost him to fame
When a feller's got gout in his feet.

This, of course, would never do, so I took a couple more mud baths, and, to my great delight, I was apparently as well as ever. And then I wrote my speech.

I remained in Mudlavia eight days only, eaving with nimble joints and good spirits. The place is beautiful, the table is excellent, the treatments are unsurpassed for gout, rheumatism and allied troubles, as well as for many nervous affections, and I can most heartily and conscientiously recommend the place in the highest terms. Doctor, when you have cases of this kind that don't improve as rapidly as you would like to have them, urge them to go to Mudlavia, for the rest and treatments these will almost surely do them good, and you will be given the credit for putting them on the road to recovery.

The place is conducted in a thoroughly ethical and scientific manner, and Dr. Bolling, the medical superintendent, will keep you in close touch with any patients you send there.

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While in Springfield, I was much interested in going, with Dr. George Thomas Palmer, over the work he is doing as head of the Health department of the city of Springfield, about which I am going to write more next month.

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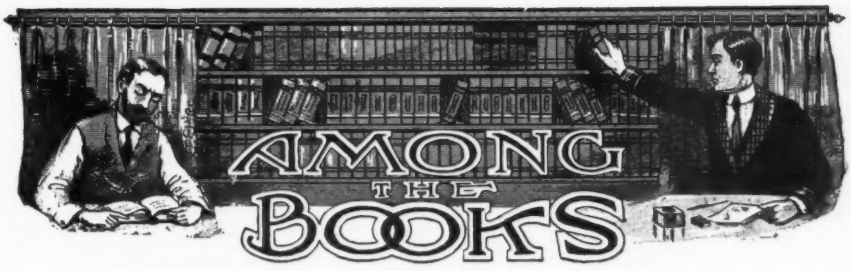
The invention of the microscope revealed a new world. It is characteristic of nature that her work is so wonderfully conceived and executed that the smallest details of structure manifest a harmony, an adaptation of means to ends seldom witnessed in the achievements of man.

Familiarity breeds no contempt with her: the higher the power of the lens, the more exquisite the secrets of structure and development and the more symmetrical the marvels of her creative skill. An insect's compound eye, a miller's wing-scale or a diatom viewed microscopically might well be the despair of human ingenuity and perfection of design.

And so prodigal is this wealth of hidden beauty that the world teems with myriad forms of the rarest shapes and hues wholly inconceivable to one familiar only with the objects visible to the naked eye. Nor is there any distinction in nature's lavish handiwork so far as relates to her comprehensive plan. The scum and ooze of ditches and stagnant pools reflect her loving care quite as much as the higher forms of organic life, and in its way the duckweed is as perfect as the rose. From her slime she rears the radiant pond-lily and the dainty water-buttercup, she transfigures decay, thoughtfully veiling her ruins with a mantle of delicate tracery, investing her noisome molds with loveliness, and everywhere leaving the impress of her magic touch, in sunlit spaces and darkling retreats ever fashioning the jewels of her treasure-house. Who would not dwell in her palaces and rejoice in her smile?



POWELL AND HARTLEY'S "DISEASES OF THE LUNGS"

On Diseases of the Lungs and Pleuræ, Including Tuberculosis and Mediastinal Growths. By Sir R. Douglas Powell, Bart., and P. Horton-Smith Hartley. Fifth Edition. Philadelphia: P. Blakiston's Son & Co. 1911. Price $6.00.

The reviewer has studied representative portions of this volume with a great deal of interest and enjoyment as well as with benefit, and was strongly reminded, during this perusal, of the older classic dealing with the same subject, the book by Dr. Walshe, which, during the middle and the third quarter of the last century, was considered perhaps the foremost authority.

The authors of the present treatise are so well known as standing in the first ranks of physicians treating diseases of the chest that we are, from the beginning, inclined to accept their statements as decisive; and, as a whole, this preconception is not disappointed.

The discussions of the various diseases affecting the lungs and pleuræ are, not only complete, but very clearly and interestingly presented. The reviewer may be pardoned if he paid more particular attention to the chapters dealing with tuberculosis of the lungs, and he found here a really classical description of this disease as it may present itself under the most varied aspects and in the most variable forms.

It is of interest to note, on page 615, that the authors frankly acknowledge that their judgment on the tuberculin treatment, in the earlier edition (of 1893), was mistaken, and they explain this satisfactorily by saying that it was written under the depressing cloud of disappointment which had risen from the disastrous failure, in 1890, of Prof. Koch's attempt to treat tuberculosis by a specific vaccine prepared from the bacillus. However, they acknowledge that more recent investigations "seemed at least to point to the soundness of the general principle that substances formed by pathogenic organisms in process of their growth proved toxic to those organisms themselves and inhibitive to their further development. . . . ." As may be expected, the specific treatment of tuberculosis is considered in a distinctly hopeful and encouraging view, which is entirely justified by the development of this form of treatment, not only of tuberculosis, but of other bacterial diseases, during the last decade. Even the use of autogenous vaccines is encouraged by these authors, who usually show a true British conservatism.

In general, this volume will be found of exceeding value to the general practician by the wealth of information and therapeutic suggestions; but also to the student, through the scholarly discussion of debatable points and through the copious references to literature as they were made use of by the authors in the preparation of their work.

It is unavoidable that in a book dealing with such a difficult problem as the present one, which has formed the subject of most studious investigations for centuries, opinions should be expressed which will not be accepted generally. The reviewer, for instance, has been led to conclusions differing from those of the authors in regard to the influence of heredity in tuberculosis. If he may permit himself another criticism, he has missed a discussion of the artificial pneumothorax for the treatment of some

forms of pulmonary tuberculosis. This therapeutic measure, suggested first by Forlanini and by Murphy, has in the last few years been developed and fully established by Brauer and Friederich, of Marburg, and bids fair to save a great many patients that might otherwise succumb to the disease.

But it woule be futile to pick flaws in a work that is so unusually excellent and valuable as this one by Powell and Hartley, and so the reviewer contents himself with recommending it to CLINICAL MEDICINE readers.

KISCH'S "SEXUAL LIFE OF WOMAN"

The Sexual Life of Woman in Its Physiological, Pathological and Hygienic Aspects. By E. Heinrich Kisch, M. D. The only authorized translation into the English language from the German by M. Eden Paul, M. D. New York: Rebman Company. 1910. Price $5.00.

In connection with the work edited by Senator and Kaminer on "Health and Disease in Relation to Marriage," it may be fitting to mention another that was published a number of years ago in Germany and that recently was presented to the English-speaking profession in translation, namely, Kisch's "Sexual Life of Woman."

It need hardly be pointed out that the subject indicated in the title has been an unknown territory until the most recent times, being, as the author points out in the introduction, for many centuries concealed by a thick veil from the eyes of the profane or viewed only through the frosted glass of poetical metaphor.

It will never be known how much of unhappiness, misery, and disease—primarily in women, secondarily in their husbands and children—has been due in the centuries gone by to a failure of mankind properly to understand and appreciate, and in the failure to take the trouble to investigate the immense and practically all-embracing importance that the sexual life exerts, in women, upon all their thoughts and actions and the immense influence which disturbances or anomalies in this respect produce.

For many years it was impossible to investigate the subject adequately, partly because of the difficulty of finding and studying suitable material, and, also, because of the hesitation which investigators naturally felt lest they offend, and, perhaps, transgress the almost indiscernible barrier that divides legitimate investigation and discussion from the obscene, which easily becomes vulgar. A further cause of this condition lies, probably, in the subjection in which women were kept deliberately, not only physically, but mentally as well, largely upon the authority and at the deliberate instigation of the institutional church.

However, in the last decades, since religion itself has become independent of the church, and since it is understood that to be religious does not necessarily mean to be a church member, the freer investigation in all phases of science and of thought has led to enormous advances in the domain of psychology and the allied sciences; and this has been of marked benefit to woman, in assuring her a greater appreciation, a more respectful hearing, and a proper deference to her merits. It has become recognized what a far-reaching influence woman exerts, not only upon the growing, but upon the adult race of men as well. Woman is now assuming, instead of the former subordinate, an equal position with her whilom lord and master, and her peculiar requirements and necessities are justly deferred to.

In the work before us we have again a unique treatise on the subject, unique because so complete, so sympathetic, and so authoritative. The work shows the deep understanding of a physician who has come in close contact, by virtue of his calling, with women of all classes, of all kinds, in the course of many years. The book also shows an unusual familiarity with the literature concerning women, and may be taken as a reliable guide on the many problems that confront the physician in his dealings with his female patients.

The language is dignified throughout, the information afforded is immense, the variety of subjects discussed may be said to be complete, vast as the possibilities

are; in short, Kisch's "Sexual Life of Woman" is one of the classics that this century has produced in its first decade.

"THE PRACTICAL MEDICINE SERIES"

The Practical Medicine Series; Comprising 10 Volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Chicago: The Year Book Publishers.

Readers are reminded that, while the price of the year's set of 10 volumes is $10, each volume may be purchased separately, at a cost of from $1.50 to $2 each. The following volumes have so far been received by the reviewers:

General Medicine. Edited by Frank Billings, M. S., M. D., and J. H. Salisbury, A. M., M. D. Series 1911, Vol. VI. Price $1.50.

Pediatrics. Orthopedic Surgery. Edited by Isaac A. Abt, M. D., and John Ridlon, A. M., M. D. Series 1911, Vol. VII. Price $1.25.

Skin and Venereal Diseases. Miscellaneous. Edited by W. L. Baum, M. D., and Harold N. Moyer, M. D. Series 1911, Vol. IX. Price $1.25.

Nervous and Mental Diseases. Edited by Hugh T. Patrick, M. D., and Peter Bassoe, M. D. Series 1911, Vol. X. Price $1.25.

SQUIER AND BUGBEE'S "CYSTOSCOPY"

Manual of Cystoscopy. By J. Bentley Squier, M. D., and Henry G. Bugbee, M. D. New York: Paul B. Hoeber. 1911. Price $3.00.

A concise guide describing, in detail, the technic of cystoscopy which the authors have found most satisfactory. The illustrations are numerous and well executed.

MAY'S "DISEASES OF THE EYE"

Manual of the Diseases of the Eye. By Charles H. May, M. D. Seventh Edition, Revised. With 362 original illustrations, 22 plates with 62 colored figures. Pp. 407. New York: William Wood & Co. 1912. Price $2.00.

This is undoubtedly *the* one best book for the general practitioner and the undergraduate to have on his desk, for it is the most complete and concise work on diseases of the eye and refraction that has ever been published.

This edition, the seventh published in eleven years, brings in the most modern methods of diagnosis and treatment, especially as regards the syphilitic and tuberculous affections of the eye. There is also a fine chapter on the ocular manifestations of general diseases. The fine typography, thin paper, most excellent illustrations, the terse and accurate teachings combine to render this small book most trustworthy.

L. N. GROSVENOR.

HERRICK'S "THE HEALER"

The Healer. By Robert Herrick. New York: The Macmillan Company. 1911. Price $1.35.

A rather attractive story with a problem, in which the hero, a physician of unusual qualifications, leaves civilization and refuses to practise his profession, because he asserts that it cannot be practised honestly, and, also, incidentally, because he is in the grip of opium addiction. While he is idealized by the lumberjacks, the fishers, the trappers, and so forth, who form the population of the district where he lives, "far north in the depths of the Canadian wildness," he fiercely refuses to take any payment for his cures.

As the love story forming the basis of the novel develops, the "Healer," as he is called, is induced to accept patients in a locality where there is located a sulphur-spring accredited with healing powers, and there accomplishes, through his superior mentality and excellent medical and surgical training, also through his honesty of purpose, some remarkable cures, in consequence of which his fame is spread throughout the land. Having married a rather empty-headed society girl, he is inevitably led to the necessity of making money and of prostituting, as he conceives it, his gifts, so that he eventually loses his influence over his patients, and is about to

give up his work, when a forest fire destroys the entire sanitarium.

The healer, who no longer is a healer, as he understands the meaning of the word, has long since lost his affection and respect for his wife and the mother of his children, when "the other woman" is introduced, rather clumsily, we must say. She puts him on the right path, and then goes out of his life. He decides to seek another wilderness, but this time the wilderness of the city. After working for years among the poor and the needy of a large city, presumptively Chicago, his friends again prevail upon him to devote his services to a greater circle and to become director of a large institution for the effective treatment, according to his ideas, of nervous diseases.

Some of the ideas of the author are rather interesting, although they are not new: so the assertion that the medical profession should be institutionalized; the state should control the medical schools and the hospitals; it should regulate the numbers and the work of the doctors, and should establish everywhere public dispensaries as their headquarters; no doctor should be permitted to receive fees from his patients. There is also a little reminder of George Bernard Shaw's preface to his play "On Getting Married," when "the other woman" declares it as her conviction that "the time will come when single women who work as men work will have the courage to love and bear children if they need to—and men will respect them."

As a whole, the story is rather disappointing and leaves us unsatisfied. There is in it too much that "ain't so" for it to attract us as a good play or a more probable story would. Yet it contains much that is true, and mercilessly shows up much that is rotten in the life and practice of medical men. If only the remedy had been presented in a more feasible and practicable form!

HANSON'S "STORY OF A QUACK"

Dr. Goodkin: Eminent English Specialist. A Story of a Quack. By E. S. Hanson. Published by the author. Chicago, 440 South Dearborn Street.

Mr. Hanson relates in this little booklet the story of the rise of a quack who, when he opened an office in a small town in a middle-western state, possessed "as sole evidence of professional study a diploma from a small medical college in Iowa, a college the mention of which in the presence of a reputable physician causes a raising of the eyebrows, if nothing more." By means of a judicious marriage this skilful (?) physician obtains the means of opening a suite of luxurious offices in the metropolis, where he establishes an immense practice as an "eminent English specialist" and bleeds the trusting lambs that fall his prey.

The story gives the methods of the quack in a condensed and entertaining form, and several copies of the little booklet might well be placed in the waiting rooms of every reputable physician, marked, "May be taken from the office." We advise our readers to communicate with Mr. Hanson for his figures for quantities, and be sure to procure and to distribute the pamphlets among their clients.

KELLOGG'S "LIGHT THERAPEUTICS"

Light Therapeutics. A practical manual of phototherapy for the student and the practitioner; with special reference to the incandescent electric-light bath. By J. H. Kellogg, M. D. The Good Health Publishing Company. Price $2.50.

"This book is intended to serve as a practical manual for the clinical use of the electric-light bath in its various forms, and in its various applications, general and local. . . . . An effort has been made to correlate the electric-light bath to those other forms of rational physiotherapy which naturally and profitably associate themselves with this newest of physical curative measures." (From the Preface.)

The author has a remarkable facility of explaining his views convincingly, and has succeeded in presenting the subject of phototherapy, in an attractive manner. The book shows a full familiarity with the work of others, while at the same time it carries the evidences of original work. It is decidedly interesting.

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5806.—"Stage-Fright." J. B., Wisconsin, wishes us to advise some treatment for stage-fright. Really, "stage-fright" is a term too vague to enable anyone to offer intelligent suggestions. This trouble generally affects individuals making their first appearance in public. Old actors, moreover, are sometimes stricken when in strange surroundings or upon taking a new part. If any pathologic condition can be discovered in the individual, it should, of course, be treated. Extremely nervous individuals may receive strychnine valerate, cactin, nuclein or some mild stimulant. Caffeine has been used successfully. There can, however, be no specific remedy for "stage-fright." It is a psychic condition.

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QUERY 5807.—"Quinine Hydrobromide." W. I. T., Illinois, desires to know of any available literature showing the influence or modifying effect of bromine on the quinine alkaloid. We know of no such literature. The chief advantage of quinine hydrobromide lies in its ready solubility. Unless given in very large doses, the bromine radicle exerts no therapeutic effect whatever. Authorities state that this salt has no advantages over the quinine bisulphate of the hydrochloride. The proportion of hydrobromic acid is 18 percent of the whole. However, there are some authorities who claim that the hydrobromide is less likely to cause ringing in the ears than other salts of quinine.

QUERY 5808.—"Tinea Circinata." H. A. M., Madras, India, wants a preventive or cure for ringworm of the body. He has tried various remedies, but there is always a return after a time.

You cannot do much better than saturate the patient with calcium sulphide, first "cleaning up" thoroughly internally and externally. We suggest calomel, podophyllin, and irisoid, taken at 8 and 10 o'clock every other night for a week, and a laxative saline the next morning. Give calcium sulphide, grain 1-6, every two hours during the waking day, and the triple arsenates, in full dosage, after meals. Bathe the body thoroughly, two or three times a week, with epsom-salt solution. Then paint over the lesion with pure carbolic acid, and in one minute neutralize this with alcohol. Twice a day rub in a little carbenzol ointment. Or, you may apply a 10-percent ointment of chrysarobin, once.

We have had excellent results with both methods. The application of oil of turpentine (medicinal) often proves curative.

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QUERY 5809.—"Sulphocarbolates for Children." H. B. O., Mississippi, desires full particulars regarding the use of the sulphocarbolates in pediatric work.

Coated tablets should not be given to children, but rather the mentholated-saccharinated tablets in solution. Children take such a preparation readily. Of course, to older children (those who can swallow any ordinary tablet) you may give

the coated sulphocarbolates; still, as we have so often pointed out, a coating really is not desirable, save when we wish to restrict the action of the drug to the intestinal tract. Then we may give the sulphocarbolates coated with salol and shellac, or shellac only. Such tablets pass through the stomach intact, and dissolve in the intestine. We earnestly urge the desirability of using a solution of the sulphocarbolates or crushed uncoated tablets in pediatric practice.

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QUERY 5810.—"Hoarseness of Catarrhal Origin." J. M. H., Oklahoma, desires suggestions for treatment of a 3-year-old boy who contracted, last winter, what is commonly termed a cold. He has been hoarse ever since, and now there is a nasal tone to his voice. Nothing has been done for the child.

Before we can prescribe intelligently for the little boy we must have a clear idea of the nasal and laryngeal conditions. However, calx iodata and helenin probably will prove beneficial. We should also cleanse the nares daily with an alkaline antiseptic solution, and then spray with dilute campho-menthol (campho-menthol, 1 part, and fluid petrolatum, 2 parts). Examine the tonsils and larynx carefully, using reflected light. If there are any signs of adenoids, remove them. Ascertain the patency of the nares by passing a flexible probe, wound with cotton and lubricated, through the nasal pharynx. There is probably some congestion of the turbinates.

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QUERY 5811.—"Interstitial Nephritis: A Complex Symptomatology." J. R. M., Missouri, asks help in a case which has been puzzling several physicians, the patient, a man of 47 years, now being under the care of a surgeon, who has not operated because of the unfavorable pathologic report. He writes:

"About four years ago this man one day came home somewhat under the influence of beer, when he was taken suddenly with pain about the appendix, and he kept the bed for ten days. He had, practically, no fever, but felt pain and distress in the region of the appendix and all over the abdomen. Then for a year he was not able to do any work, just lounged around, but finally got somewhat better and could work more or less on his farm. However, he continued to have spells of constipation and distress lasting a few days. He has been from one doctor to another, each one making a different diagnosis. During some of these spells there will be one or two degrees rise in the temperature for a period of from one to three weeks. One doctor diagnosed walking typhoid fever. One time for three weeks the patient had considerable fever, a fearfully coated brownish tongue, and tenderness over the stomach, right kidney, and gall-bladder, but no real pain and very little tenderness over the appendix. He has severe headaches, the bowels are constipated, and appetite is gone. He weighs about 190 pounds. He has a very weak back—cannot stand lifting and can hardly straighten up when arising from a chair."

The report of the Laboratory of Clinical Pathology sent us is comparatively useless, though it reveals the presence of a chronic interstitial nephritis and leukopenia. It is essential in all these cases that the twenty-four-hour output of urine be collected and a specimen of that (4 ounces) examined. The full quantity voided must be known.

Altogether, we are inclined to think that your patient, suffering from a chronic interstitial nephritis, contracted influenza of the abdominal type. This would account for the peculiar symptoms. There is an absence of pus, and we doubt the advisability of operation; in fact, the gall-ducts, appendix, cecum, and other organs are all more or less involved. The patient, moreover, is not throwing off toxins.

Until a more positive diagnosis can be made, we suggest that you eliminate. Give the man blue mass and soda, gr. 1-2, podophyllin, gr. 1-6, bilein, gr. 1-12, hourly for four doses, from 6 p. m., and the next morning give a full dose of saline laxative. Before each meal (and allow only very light, easily digested food) give boldine, gr. 2-67; irisoid, gr. 1-3; and after eating, chionanthin, gr. 1. Order copious high saline enemata two or three times a week.

Keep the skin active with salt sponge-baths. Give nuclein, 10 minims under the tongue, morning, noon, and night, or 20 minims, hypodermically, once daily. Arbutin, gr. 1-3, with a glass of barley water every three hours, will prove beneficial, we believe.

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QUERY 5812.—"Thrombotic Postpartum Paralysis." B. C. M., South Carolina, requests suggestions in the case of a woman who was confined some three weeks ago. "A few days before her accouchement," he writes, "the woman became paralyzed on the left side and her mind was badly affected. Her hand is better now, but she can not use her leg; moreover, her right leg has been affected for the last few days. The lochia continued for a week, then stopped. Her legs are considerably swollen and she complains of terrible pain, but seems unable to locate it; at least she says it is in one leg one time and somewhere else in a few minutes. She has to have morphine to ease her and make her sleep; this, however, constipates her very much, in fact, her bowels have not acted in a week, although she has had several enemas of soap and water and oil of turpentine, besides 1-12 grain of elaterium every four hours for about sixteen hours. Her kidneys seem to act pretty freely, but the urine escapes without her knowledge. What can be given in place of morphine to make her rest and what to promote absorption of the blood-clot? Her pulse generally runs from 110 to 120, but veratrine given every hour or so reduces it to 85—when it goes below that, it seems to become irregular. For the bedsores, a mixture of equal parts of castor oil and oil of turpentine has been used on her back. Should the legs be rubbed with anything? Potassium iodide, in 5-grain doses, has been given three or four times a day."

You are confronted by a most serious condition, doctor. The paralysis of the left side occurring before confinement decidedly complicates matters. Under the circumstances, it is a question whether the paralysis is of thrombotic origin. You do not mention an elevated temperature, and, altogether, the picture presented is not that of a true phlebitis or pelvic cellulitis; while, if a phlebitis is present, it may be due to conditions arising during or after delivery, the initial paralysis being an entirely separate disorder. Further, you do not describe antecedent conditions, while various questions suggest themselves. Is there evidence of metritis? Was the labor normal? Was there difficulty with the placenta? Were the discharges the week after delivery normal in character? We have frequently seen the discharge cease on the seventh day. The basal pathologic condition must be discovered here, doctor, and, so, a very careful examination is necessary.

Stop the potassium iodide. Give this woman hyoscine, morphine and cactin together with caffeine and pilocarpine, to control pain; apply to the extremities compresses wrung out of warm carbolized solution of epsom salt (epsom salt, 1 ounce; water, 1 quart; carbolic acid, 10 minims); throw into the rectum 1 or 2 ounces of olive oil, and then float up with 3 pints of warm decinormal salt solution; flush the vagina with lysol solution; once a day inunct 1 dram of unguentum Crédé (colloidal-silver ointment), these inunctions being made on the inner aspect of the thighs, over the lower abdomen, under the arms, and other thin-cuticled areas.

Internally give arsenic iodide and irisoid in full doses, and nuclein solution hypodermically, 20 minims twice a day. If these injections cannot be made, then give 15 drops of the solution under the tongue (instructing the patient to allow it to become absorbed from the buccal mucosa) every four hours. Avenin, 1 grain, may be added to the irisoid with advantage. If the temperature rises over 100° F., push echinacea or else use antistreptococcic serum. The intestines being atonic, you may have to use the faradic current and oil of turpentine enemata. Later, as conditions improve, give berberine and physostigmine every four hours. You *must* maintain elimination—renal, dermal, and intestinal.

In the meantime support the strength of your patient. We believe that hot compresses will prove promptly beneficial.

They should be changed frequently and the parts massaged with warm antiseptic oil at least three times in twenty-four hours. The faradic current, properly applied to the spine and limbs, might prove useful. We shall be glad to advise you further.

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QUERY 5813.—"Operation too Long Deferred." J. C. B., Oklahoma, wants us to outline "treatment for a woman, 38 years old, who has cancer, as both her grandfather and father have had before her. One breast (an open running sore) has been 'eaten off' with caustics, the other is involved, and smaller nodules exist over the breast and sternum."

It is not necessary, certainly, to explain that medicinal procedures here are useless, while at this late stage, according to the description, operation is out of the question. Unquestionably, metastatic growths exist internally, and, so, even the most extensive removal of the mammæ, pectoral muscles, and axillary glands will prove useless. The only thing one can now do is to allay pain and lessen secretion and fetor.

Cleanse the parts thoroughly with hydrogen peroxide, dry, dust with orthoform, then apply gauze saturated with a reliable antiseptic oil (9 parts) mixed with oil of thuja (1 part). Internally, give nuclein, 30 drops, under the tongue, three times daily, or an equal quantity hypodermically once a day; also, echinacea, 1 grain, every three hours. Maintain elimination, and, if pain is intense, give hyoscine, morphine and cactin. The most you can offer this unfortunate woman is comparative comfort.

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QUERY 5814.—"Extension Splint for Tuberculous Hip." E. J., Mississippi, dedires a splint that will enable him to immobilize a tuberculous hip-joint and at the same time to apply extension. The patient, a girl of twelve, is at present in a plaster cast, and weight and pulley are attached. The doctor desires to "get her on her feet."

The splint desired can be obtained from Messrs. Sharp & Smith, 103 N. Wabash Ave.; Truax, Greene & Co., 171 N. Wabash Ave.; or Huston Brothers, 30 E. Randolph St., all of Chicago; or from any good surgical-supply house. It will be necessary to give measurements and describe precisely the conditions to be met.

Do not forget, doctor, that passive hyperemia has proved of service in the earlier stages of joint disease. Tuberculo-opsonic vaccines often have proven satisfactory. Of course, the patient must practically live in the open air, and the joint must be put at rest. Under proper conditions, tuberculous arthritis tends to heal spontaneously. As you are aware, it is easy to overcome the traction of the muscles by a period of weight-and-pulley treatment before applying the splint or plaster cast. Fixation apparatus should never be applied until the painful stage is passed and swelling has subsided.

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QUERY 5815.—"Chronic Cystitis: Catheter-Life." J. T. D., Texas, has in his care an old gentleman of 77 years, who for the last two years has been suffering with cystitis. Eight months ago he could hold not more than an ounce of urine in the bladder. Under a few simple remedies he began to improve, but, a short time after (in January), he fell on the ice and broke his leg at the upper third. The fracture was reduced and he was confined to his bed. Then, in about a week or so, his bladder refused to empty itself. The catheter was resumed, and for the last three months it has been taken out once a day for cleansing. The doctor asks: "Is there anything that would stimulate this man's bladder or relax the sphincter-muscles, so that he can urinate naturally?

We are sorry, but we cannot, possibly, venture a prognosis without having more information about conditions. What about the prostate gland—is it markedly involved? Are the bladder-walls thickened? Does a pronounced cystitis exist at the present time? Have you analyzed the urine? We suggest that you examine the individual carefully, report your findings, sending at the same time a specimen of urine to our pathologist.

Of course, as long as the catheter is left in place, we must expect more or less

paralysis of the sphincter, as also vesical irritation or even infection. We are inclined to believe it best to withdraw the catheter after voiding the urine, unless reinsertion is indeed extremely difficult. Push formin and arbutin, each dose of medicine being taken with a half pint of barley water, to which 30 drops of fluid extract of triticum repens may be added. Hyoscyamine may also be given, if there is spasm. A prostatic suppository may be inserted into the rectum each night, and the bladder irrigated two or three times a week with a 2-percent ichthyol or 1 : 1000 antinosine solution.

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QUERY 5816.—"Milk-Fever." E. J. L., South Dakota, wants to know what is the prophylaxis and the treatment of milk-fever?

For information in regard to socalled "milk-fever," we refer to any one of the more modern works on obstetrics—Jellett's "Manual of Midwifery," Webster's "Practice of Obstetrics," etc. It must not be forgotten that up to comparatively recent times the common belief was that normally a physiologic elevation of temperature reaching 101° F. or higher occurred in association with the establishment of lactation, i. e., on the third or fourth day, and it was to this condition that the term "milk-fever" was applied, and as a consequence local septic conditions of the genital tract were overlooked.

It cannot be too plainly stated that, though puerperal women are subject to slight variations of temperature, the average differs little, if any, from the normal. If the temperature rises above 100.5° F., the cause can be found in almost every instance. A rise from 0.5 F. to 0.8 F. during the first twelve hours after delivery is, perhaps, the rule, the rise being most marked when it corresponds with the ordinary elevation of temperature occurring in the evening.

There is no such disease as "milk-fever," proper, the increased temperature observed being of bacterial causation. Our forefathers held that the fevers of the puerperium were invariably a result of the retention or suppression of the lochia, and later there grew up a belief that possibly "milky metastasis" was a cause of puerperal fever, and this belief is still held to some extent, as the persistence of the terms "milk-fever" and "milk-leg" testify.

Writers on obstetrical subjects during the eighteenth and earlier part of the nineteenth century invariably mention "milky metastasis" as one of the causes of puerperal fever, and many of them regard it as the sole cause. They held that an excess of milk was formed, which, instead of being discharged by the breast, found its way to the genital organs, thereby producing pathologic conditions there.

De Jussieu, a member of the Royal Academy of Sciences of Paris, stated, in a paper published in 1750, that he had discovered a "milky serosity" in the cavity of the pelvis and "clotted milk" on the surface of the intestines. Still later, Boute spoke of the occurrence of "milky lochia" in certain cases. Gradually, though, English obstetricians adopted a more rational theory, namely, that of a specific puerperal fever, and the many epidemics which visited the great cities and maternities during the century naturally strengthened them in their belief.

From this time on, the doctrine gradually gained ground, and finally Oliver Wendell Holmes published, in an essay entitled "The Contagiousness of Puerperal Fever," his reasons for believing that the infective agent was carried to the patient by the accoucheur or nurse, and, therefore, was preventable.

Just at about the same time Semmelweiss, of Vienna, noticed that the mortality among women attended by students was three times greater than that in wards where midwives were in attendance. While considering the matter, one of his colleagues died of pyemia, the result of a dissection wound—and in an instant the cause and effect were clearly grasped. Semmelweis insisted upon the students cleansing their hands with chloride of lime, and promptly he reduced "milk"-, or puerperal, fever in his lying-in wards to less than one percent.

You will readily grasp now that the prophylaxis of socalled "milk-fever" con-

sists in the observance of surgical cleanliness on the part of the accoucheur and attendant. It is impossible to discuss the subject in its entirety here. We recommend a careful perusal of any one of the books already mentioned.

Mastitis is, of course, an entirely different disorder. Treatment is effective and generally understood. A socalled "milk-disease" is occasionally observed in the Mississippi Valley and along the eastern slopes of the Alleghanies, and is caused in man by the ingestion of the flesh or milk products from animals affected with the "trembles." The poison is not destroyed by cooking. The subject is covered in "Alkaloidal Practice," page 212.

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QUERY 5817.—"Epithelial Islands Observed." C. S., South Dakota, recently had under treatment a man who, from a hot stove, received on one of his legs a burn about 3 inches long by 2 wide, but let it go without dressing or attention. When the doctor saw the man, three days later, he found the leg very much inflamed, very sore, and somewhat swollen, and he apprehended gangrene. The lesion was dressed, and eventually the inflammation was allayed and pain quieted, but the surface of the wound was covered with a grayish-green fungoid coating. This was touched twice daily with a 1-percent silver-nitrate solution and the wound dressed with balsam of Peru, and it cleansed off nicely in a week. Healing had progressed slowly from the edges, perhaps one-sixteenth inch in all around. Now a resinous ointment was applied. In a day or so the surface became studded with "little silvery papules" and dermatization extended from each one of those little glistening granules until the area was scarred over. "It was my impression," writes the doctor, "that skin was formed only from cells at the margin of the wound. How explain it? Has it been seen before?"

We congratulate you heartily upon the results you secured in this instance. As to your interrogation, you forgot to bear in mind that not infrequently small islands of epithelia are separated from the edges and are floated or carried along the granulated surface of the wound, where they may become implanted and grow, each island forming a focus for reproduction. In this way, large spaces may be bridged over. It was from a study of these "small glistening granules" that it was learned that a very minute particle of living skin would serve in the grafting of wound-surfaces too extensive to heal over.

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QUERY 5818.—"Density of Urine Increased by Drugs." J. M. T., Pennsylvania, desires to be informed what drugs increase the specific gravity of urine. The specific gravity of urine is increased by any drug causing a greater output of solids (boldine, iridoid, xanthoxyloid, chionanthoid being examples), although much depends upon the cause of the low specific gravity. Usually the specific gravity is low where large quantities of urine are voided. In oliguria, the specific gravity is high, save in diabetes mellitus, in which latter condition the presence of sugar raises the specific gravity in face of the greatly augmented secernment of water.

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QUERY 5819.—"Treatment of Warts." F. L. B., Iowa, asks about the best treatment for warts.

Warts are peculiar things, treatment which proves efficacious in one case failing in another. Sulphur and acetic acid applied to ordinary warts on the hand frequently will cause their disappearance, especially if the patient takes two or three grains of magnesium sulphate three times daily. A saturated solution of magnesium sulphate may also be applied to the warts. One of the most useful preparations for common warts is the well-known "corn-cure," consisting of extract of cannabis, grs. 30; salicylic acid, grs. 30; collodion, oz. 1. Deftly apply this collodion to the warts once a day. Sodium ethylate removes warts, as a rule; chromic acid often proves effective; freezing with carbon-dioxide snow is the latest cure. Whatever the escharotic, the healthy skin must be protected against the application. It need not be pointed out, of course, that venereal warts require an entirely different application, as do also those of the senile type.